CULTURES OF CONCERN AND UNCONCERN

Thinking Differently about Climate Change

by

Chloe Helen Lucas

MA (Hons) English Literature

M App. Sci. Natural Resource Management

Submitted in fulfilment of the requirements for the degree of

Doctor of Philosophy (Geography)

School of Technology, Environments and Design

University of Tasmania, Australia

29 March 2018

Declaration

This thesis contains no material which has been accepted for a degree or diploma by the University or any other institution, except by way of background information and duly acknowledged in the thesis, and to the best of my knowledge and belief no material previously published or written by another person except where due acknowledgement is made in the text of the thesis, nor does the thesis contain any material that infringes copyright.

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The research associated with this thesis abides by the Australian National Statement on Ethical Conduct in Human Research. The study has received full ethics application approval from the Tasmania Social Sciences Human Research Ethics Committee, Human Research Ethics Committee (Tasmania) Network, reference number H0014743.

Chloe Lucas

29 March 2018

Statement of Co-Authorship

The following people and institutions contributed to the publication of work undertaken as part of this thesis:

- Chloe Lucas, School of Technology, Environments and Design = Candidate
- Aidan Davison, University of Tasmania, Supervisor = Author 1
- Peat Leith, University of Tasmania, Supervisor = Author 2
- Russell Warman, University of Tasmania = Author 3

Author details and their roles

Paper 1: Lucas CH, Leith P and Davison AG (2015) How climate change research undermines trust in everyday life: a review. Wiley Interdisciplinary Reviews: Climate Change 6(1) 79-91. Located in Chapter Three.

Candidate was the primary author, and contributed approximately 70 per cent of the planning, research and writing of the paper. Author 1 and Author 2 contributed to the conception and design of the research, and drafted significant parts of the paper.

Paper 2: Lucas CH (2018) Concerning values: What underlies public polarization about climate change? Geographical Research 56(3) 298-310. Located in Chapter Five.

Candidate was the sole author on this paper.

Paper 3: Lucas CH and Davison AG (2018) When climate change is a matter of unconcern: A qualitative inquiry. Manuscript submitted for publication. Located in Chapter Eight.

Candidate was the primary author, contributing approximately 80 per cent of the planning, research and writing of the paper. Author 1 contributed significantly to the research design, conceptual framework and writing of the paper.

Paper 4: Lucas CH (2018) Getting to know the others: Repeat interviews and delayed disclosure as a method for researching a politically sensitive issue. Manuscript submitted for publication. Located in Chapter Nine.

Candidate was the sole author on this paper.

Paper 5: Lucas CH and Warman RD (2018) Disrupting polarized discourses: Can we get out of the ruts of environmental conflicts? Environment and Planning C: Politics and Space 36(6) 987-1005. Located in Appendix I.

Candidate was the primary author, and initiated the paper. Candidate contributed approximately 50 per cent of the planning, research and writing of the paper, working collaboratively with Author 3.

We the undersigned agree with the above stated "proportion of work undertaken" for each of the above published (or submitted) peer-reviewed manuscripts contributing to this thesis:

Signed: Date: 21/03/2018

Aidan Davison, Supervisor, School of Technology, Environments and Design, University of Tasmania

Signed: Date: 21/03/2018

Leonie Ellis, Head of School, School of Technology, Environments and Design, University of Tasmania

Acknowledgements

Never before have I worked on a project that has involved the goodwill and support of so many people. I would like to express my immense appreciation to all those who helped me along the way. Thank you to my wonderful friends from South Hobart and beyond who – on countless occasions – picked up my children from school, or took them to play for the day so I could work. Thank you to the staff, fellow PhD students, and other researchers who made the journey so enjoyable, especially Russell Warman, Carolina Garcia Imhof, Jen Sanger, Jenny Styger, Kamal Singh, Natalie Smith, Vishnu Pralahad, Jenny Scott, Roger Vreugdenhil, Deepa Kumar, Melle Nikkels, Lisa-Ann Gershwin, Mai Yasue, Silvia Flaminio, Alana Betzold, Abigail Proctor, Jamie Kirkpatrick, Andrew Harwood, Kate Booth, Janneke Webb, Janet Dyment, Mim McGarry, and Tim Prior (for getting me to Tasmania in the first place!)

I have had the good fortune to meet and get to know nine very generous and understanding interview participants in the process of this project. Their contribution to this work has been enormous. Their names have been replaced with pseudonyms in the thesis, but they know who they are, and I am deeply grateful for their involvement. My huge thanks also to Frits Ahlefeldt-Laurvig for kindly providing the watercolours illustrating this thesis.

My supervisors, Aidan Davison, Peat Leith and Ingrid van Putten have been a brilliant support team. Ingrid's warm and enthusiastic engagement with the project, and her expertise in quantitative research, have given me the confidence to keep learning and trying new methods of inquiry. Peat has an amazing knack for seeing the potential real-world applications of the ideas developed through the research project. His vision has kept this work sharp and relevant. I owe tremendous thanks to Aidan, in whose company detail and confusion are so easily clarified into concept and argument. His depth of wisdom, his compassion and his humanity have been formative in the development of my work, and my aspirations.

I would also like to thank my family for supporting me in this long journey. My dad, for early lessons at the dinner-table in how to construct a good argument, and how to tell a good story. My mum, for always believing in me, and helping me to believe in myself. And of course to Andrew, who makes everything possible. This has got to be worth another surfboard!

This thesis is for Danny and Eva, who deserve the best possible world we can make.

Abstract

Amid the increasingly urgent challenges of a changing climate, inclusive public discussion about how global warming might be managed is rare. Communication by concerned scientists, activists, journalists and policy-makers is failing to connect with significant sections of society who remain unconcerned about climate change. Large and often influential publics are missing from deliberations about how we should interpret and manage this threat. This thesis, encompassing journal articles (published, in press, or in review) and substantive chapters, investigates why some people appear to have 'switched off' from messages about climate change. It asks what underlies increasingly polarized public responses to the issue, and how we might communicate better about climate change.

Reasons for public unconcern about climate change are not well understood. A largely quantitative research literature has explicitly or implicitly characterized unconcern either as passive disengagement, reactive apathy, or as motivated forms of climate scepticism and denial. In this thesis, I argue that climate change communication is failing to engage people who are unconcerned, in large part because it focuses on the values and narratives of people who are concerned about climate change. Where it does engage with the unconcerned, it often does so in ways that frame unconcern reductively, as a negative attitude, without addressing the active concerns and priorities of this diverse group. These unequivocally negative framings of unconcern have given rise to what I describe as a 'concern deficit model' of communication. I argue that a more nuanced understanding of the values and concerns involved in the lived experience of unconcern about climate change is required. This would enable more inclusive, dialogic communication between publics with divergent views. In this thesis, I take a social constructivist perspective, examining how lived social contexts, and the values embedded in them, affect how people respond to messages about climate change. I develop a mixed-method approach that considers unconcern about climate change as a substantive issue in its own right. Integrating qualitative and quantitative methods, I examine why people are concerned or unconcerned about climate change. I draw on the findings of my research to recommend ways for advocates of action on climate change to engage reflexively with expressions of unconcern.

Climate change discourse has been framed predominantly around scientific evidence and scenario modelling. Declining public trust in climate scientists, which reached a peak around

the time of the 'climategate' controversy in 2009, has been blamed for a decrease in public concern about climate change. In a review the interdisciplinary literature on trust, I find that much of this work focusses on trust as a matter of rational decision-making. In response, I consider how trust is also implicit in everyday ways of living. I suggest that scientific claims about climate change require people to re-evaluate their implicit trust in many elements of everyday life in a way that is profoundly unsettling. I draw on theories of late modernity to describe how climate change has undermined the ability of expert systems to diagnose and arbitrate appropriate societal responses. As a product of intertwined nature and culture, climate change draws attention to the way that facts and values are inherently entangled with each other, highlighting the impossibility of a purely 'fact-based response' to the problem.

Polarized attitudes to climate change have been associated with political partisanship. I focus on the human values underlying divergent attitudes to climate change in order to obtain a more detailed understanding of this phenomenon. My empirical work begins with an investigation of the values underlying concern and unconcern about climate change. Statistical analysis of a survey of 522 residents of Hobart, the capital city of Tasmania, Australia shows that while climate change concern is closely related to valuing nature, unconcern has two sets of roots: one in the conservative values of security, social order and tradition; and the other in values of freedom and self-direction. Examining correlations between attitudes to climate change and to extractive industries, as well as the discursive context of concern and unconcern about climate change in Hobart, it becomes clear that polarized social responses to climate change follow patterns arising from previous environmental conflicts, in this case historical conflicts over forestry and hydroelectric dams in Tasmania.

The patterns of values implicated in climate change unconcern revealed by the survey are contextualized through in-depth qualitative inquiry. I describe the design of an innovative method to enable me, over the course of an extended series of repeat interviews, to build trust and empathy with nine participants identified through the survey as expressing unconcern about climate change. I use narrative analysis to explore how diverse social contexts and concerns shape participants' responses to climate change. The narratives shed new light on the lived experience that leads to expressions of unconcern. They also uncover a greater diversity of political contexts for and expressions of unconcern than is present in the existing literature.

The need for decisive and effective political action on climate change is currently hampered by a public discourse in which climate change is seen to be an issue that is 'owned' by certain social groups and their associated bodies of expertise. In this context, politicized arguments about the scientific facts of climate change mask recognition of the social values that motivate them. Investigating unconcern as a substantive matter, through empathetic forms of dialogue, enabled me to engage with it as an expression of legitimate life concerns. On this basis, I argue that unconcern has the potential to create constructive forms of pressure to improve climate change communication, coalition-building and policy making. To realize this potential, advocates of climate action must recognize that their own concern about climate change is not founded on objective knowledge alone. The opportunity to engage respectfully and productively with people who think differently about climate change requires reflexivity about the ways in which all concerns are shaped by values and the social contexts of lived experience.

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Preface

Warnings of climate chaos have become a monotonous background hum, like white noise that refuses to be drowned out. Our world is heating up. The weather is ignoring precedent. Scientists caution that we have a potentially fatal fossil fuel habit. Greenhouse gases are released in dangerous volumes as we burn coal, oil and gas, apply fertilizers, clear trees, farm cattle, and do countless other things in the practice of everyday life. These gases are changing our oceans and atmosphere. We are experiencing shifts in weather patterns, and growing seasons. Fires, floods, storms and droughts are more frequent, more intense. I take in the predictions, the projections, of a less hospitable world. I hear talk of extinctions, sea level rise, floods of refugees. A leading climate scientist says that the difference between two and four degrees of warming could be 'human civilization itself'. Why, I wonder, do we not respond to this threat? Politicians and publics seem stuck in the patterns of business as usual. Where is the urgency? Where is the action?

* * *

Opening conversations about people's relationship with the natural world was part of my job for fifteen years between graduating from university for the first time, and starting this PhD. I researched and produced television and radio documentaries, news stories, public service advertisements, educational books, even games – often focussing on how people understand and live within the natural world. I began in 1997 as a researcher on a BBC investigative documentary about the Piper Alpha oil rig disaster, subsequently working on many films about people's interactions with landscapes, science and technologies. After moving from the United Kingdom to Australia in 2002, I became an 'environmental communication' specialist, writing and producing media about challenges such as ocean pollution, threats to coral reefs, opposition to protected areas, over-fishing, and roadkill. I came to feel that on each and every issue, I was singing to the choir. The people who were listening to me were not the problem; I needed to know how to get through to those *other* people, the ones who were not listening.

Communicating with people who think, feel and act differently to me has become a theme in my work. I have a particular interest in understanding why others might not share my perspective, and in engagement that respects and empathizes, and does not alienate those with differing opinions, thereby opening pathways for mutual learning. In this project, I have engaged both widely and deeply with people who do not share my concerns and fears about

a climate-changed world. In the process of this inquiry, my understanding of the nature of the problem, and the ways it could be addressed, have changed. This PhD project has been a journey to understand how we might re-imagine the possible responses to a growing global risk. My personal experience has led me to question existing frameworks and assumptions about the way climate change communication should be done. Seeking insights from a different perspective, I have centred this study in the lived experience of people who are unconcerned about climate change. I am particularly indebted to the nine participants who entrusted me with their own personal stories. The narrator of Margaret Atwood's (1988: 240) novel Cat's Eye warns that "knowing too much about other people puts you in their power, they have a claim on you, you are forced to understand their reasons for doing things and then you are weakened." In contrast, I believe that taking seriously the views of the 'others' is empowering, as well as transformative. To see from a different perspective opens a is a way to know oneself anew, to question one's most deeply embedded assumptions, and potentially, to discover different ways to work together.

Chapter One | Introduction

> Everyone, experts and non-experts alike, converts climate change into stories that embody their own values, assumptions and prejudices … these stories can come to take on a life of their own, following their own rules, evolving and gaining authority as they pass between people … The most pervasive narrative of all is the one that is not voiced: the collective social norm of silence.
>
> George Marshall (2014: 3)

The climate is changing, and we are all implicated in the shifting fortunes this creates. In this thesis, I question the ways we communicate about what is happening to our climate, who is responsible, and how we should act. My motivation is a belief that climate change is an urgent and potentially catastrophic problem, and that action is currently too limited and ineffectual. I am troubled by evidence that efforts to stimulate action have led to deep, and often bitter divisions between people who are concerned, and people who are unconcerned about climate change. Increasing polarization is becoming entrenched through the association of certain cultural narratives about climate change with particular political and social identities (Hart and Nisbet, 2011; Tvinnereim, 2015). This is an urgent problem for advocates of action on climate change, and calls for a re-thinking of the ways in which 'we' communicate.

The central question of this thesis is: Why are current forms of communication about climate change failing to effectively engage some sections of society?

By 'communication about climate change', I mean all forms of description and interpretation of the problem of climate change designed for public (i.e. lay) audiences. This includes science communication, media reporting and opinion, engagement by politicians and advocates of particular policies, communication by activists, by non-governmental organisations and by individuals speaking to family, friends and acquaintances. I suggest that overall, these forms of climate change communication are actively widening a rift in society between those who are concerned, and those who are unconcerned about climate change.

A current lack of effective engagement with unconcerned publics is implicated as both a cause and a consequence of the social polarization of climate change concern (Hart and Nisbet, 2011; Tvinnereim, 2015; Unsworth and Fielding, 2014). This study focusses in particular on Anglophone western democracies: Australia, the United States and the United Kingdom, in which public attitudes toward climate change are well-studied, and populations are seen to

be growing increasingly polarized over this issue (Capstick et al., 2015). It has been well established that polarization over climate change reflects political ideology and party affiliation[1], with people on the right of the political spectrum less likely to believe in, or be concerned about climate change than those on the left (Hornsey et al., 2016; McCright and Dunlap, 2011b). In Australia, 65 per cent of right-wing Liberal Party voters, and 60 per cent of right-wing National Party voters said that climate change was either 'not happening' or 'caused by natural fluctuations' as opposed to human actions. In contrast, 35 per cent of left-wing Labor Party voters, and 19 per cent of Greens Party voters believed that climate change was not happening, or natural (Leviston et al., 2015; Leviston and Walker, 2012). In the US, of the 36 per cent of respondents to a national survey who said they cared 'a great deal' about climate change, three quarters were supporters of the left-wing Democratic Party, and only one quarter supported the right-wing Republican Party (Funk and Kennedy, 2016). In the UK, 34 per cent of right-wing Conservative Party supporters, and 48 per cent of right-wing nationalist UKIP supporters say they are not at all, or not very worried about climate change, as do 33 per cent of politically disengaged voters. By comparison, 21 per cent of left wing Labour Party supporters and 11 per cent of Green Party supporters are not at all, or not very worried about climate change (Fisher et al., 2018).

In cause of and response to this polarization, the majority of forms of climate change communication seek to promote either the existence of scientific consensus on climate change, or public consensus for particular modes of action (Pepermans and Maeseele, 2014). Drawing on the work of Maeseele (2015) and Carvalho et al. (2017) I divide climate change communication into four types:

- **Deficit models** of communication that focus on the transmission of messages from the scientific community to the broader public through the provision of information in various forms (for a defence of these see Sturgis and Allum, 2004). An example is communication promoting the scientific consensus on climate change (e.g. Cook et al., 2016). Deficit models of climate change communication are criticized in detail in Chapters Two, Three, Eight and Ten of this thesis.

[1] See note on Australian politics, p21.

- **Social marketing** approaches that individualize responsibility for climate change through consumer decisions, and tailor communications to the assumed needs or values of different audiences (e.g. Hine et al., 2014; Thaler and Sunstein, 2008). These forms of communication rely on implicit psychological influence on individuals, rather than open deliberation and democratic citizenship. In this way they are open to abuse by vested interests, and in their promotion of financialized subjects also endorse existing forms of free market capitalism that underpin current dependence on fossil fuels. For a fuller critique of the limitations of such approaches see Corner and Randall (2011). I critique audience segmentation approaches in Chapter Eight, and discuss individualization of responsibility in Chapters Two and Ten.
- **Top-down formal public participation** approaches such as invitations to engagement, citizen panels or consensus conferences organised by governments or institutions such as the Intergovernmental Panel on Climate Change (IPCC). These approaches have been criticized for the way in which they can be used by powerful institutions to exclude some publics, and elevate others, while providing a veneer of public legitimacy (Few et al., 2007; Wynne, 2006). This is discussed further in Chapter Two and Chapter Ten.
- **Citizen-led public participation** through approaches such as activism, social action or sub-political processes in which conflicting definitions of climate risks are negotiated (Maeseele, 2015; Pepermans and Maeseele, 2016; Swyngedouw, 2011). Maeseele (2015) argues that only this citizen-led form of climate change communication is able to accommodate difference, rather than consensus over climate change, through an approach of agonistic pluralism. These types of approaches are the focus of my investigation of ways to improve climate change communication in this thesis. In Chapter Two I discuss the opportunity for such processes in light of Beck and Giddens' theory of reflexive modernization. In Chapter Three I explore the importance of trust and dialogue between social groups, and in Chapter Five and Appendix I, I examine how human values might be used to enable such dialogue across conflicting social groups. In Chapters Seven, Eight and Nine, opportunities for empathetic dialogue with people who are unconcerned about climate change are explored in detail. Chapter Ten makes recommendations for a reflexive, pluralist model of climate change communication.

In this thesis, I critique forms of climate change communication that are based on appeals to consensus, or that attempt to persuade or influence based on undisclosed marketing techniques. The push for climate consensus seems to conflict with the pluralist trajectory of societies in which difference is expected and often celebrated. The consequence is a lack of public debate and deliberation about suitable policy and action on climate change (Corner, 2013b; Norgaard, 2012). Current approaches to understand and manage climate change are dominated by ecological, economic and technological understandings of carbon emissions, while structural and social drivers tend to be overlooked (Norgaard, 2017; Palsson et al., 2013; Sörlin, 2013). There are increasing calls for interdisciplinary approaches (Dick et al., 2017; Ledford, 2015) and for multiple methods that examine the interlinked social, physical and ecological dimensions of climate change at different scales, sites, and points of focus (Ostrom, 2009; Poteete et al., 2010; Scoones, 1999).

While the link between political affiliation and concern about climate change is well established through a growing number of national scale surveys in several countries, and there is a body of literature on the psychological processes thought to underlie political polarization about climate change (see for example Clayton et al., 2015; Jacquet et al., 2014; Swim et al., 2009), there are gaps in our understanding of social responses to climate change communication. There is very little in-depth qualitative research on the lived experience of being unconcerned about climate change. The active social and discursive processes through which people become unconcerned are not yet understood. This thesis addresses this gap by drawing on interdisciplinary ways of understanding human responses to climate change. I draw on psychological and cognitive research to understand the processes of individual evaluation. I use narrative inquiry to gain insight into lived and contextual understandings of climate change. Juxtaposing scope and depth, I use quantitative survey methods to give me a broad view of unconcern about climate change, and qualitative interview methods to enrich the depth of this inquiry. Social theory has enabled me to situate individual experience within the structural arrangements and processes of late-modern society. In asking why current forms of climate change communication seem unable to effectively engage some sections of society, I examine why we think differently about climate change, and whether it is possible for climate change communicators to generate a politics of action on climate change that affirms difference.

My empirical research involved a public survey of 522 adult residents of Hobart, the state capital of Tasmania, Australia, in April-May 2015, followed by a series of repeat in-depth

interviews with nine participants who were unconcerned about climate change, from September 2015 to March 2016. The public survey, known as the Hobart Values Survey, was used both to gather information on the patterns of values and attitudes associated with concern and unconcern about climate change, and as a method for recruiting participants for the interviews. The in-depth qualitative inquiry conducted through the interviews focussed on the lived experience of people who were unconcerned about climate change. It involved an innovative method of delayed disclosure, together with multiple repeat interviews. This method enabled me to develop trust and empathy with participants, and to get to know their active concerns and values, before introducing the politically sensitive issue of climate change late in the series of interviews. The mixed method approach was designed to give both wide scope, and significant depth to my analysis. The findings of these two methods stand alone, but also usefully intersect to create a nuanced picture of public responses to climate change.

The reference in the title of this thesis to 'cultures of concern and unconcern' signals a social constructivist perspective. I see different understandings of climate change as belonging to social worlds in which individuals consciously and sub-consciously draw upon norms, institutionalized practices and cultural narratives in ways that make particular attitudes more or less salient and acceptable. Cultural narratives are created through networks of interactions in which certain evaluations and interpretations of events, ideas or identities are validated, and through multiple repetitions, become accepted by a group of people (Fivush, 2010). The subtitle of the thesis, 'thinking differently about climate change' describes the divergent attitudes and cultural narratives about climate change evident in different social groups: I expand on the concept of cultural narratives in the final chapter. It also reflects a process of change in my thinking during this research project. It may suggest that other people should also think differently. However, I do not wish to imply that I am seeking to change the minds of the unconcerned, to enrol them in a consensus of climate change concern. Rather, I hope to encourage those who advocate action on climate change to engage differently, and more effectively, with people who do not share their concerns.

I have chosen to write this thesis as a mixture of publications for peer-reviewed academic journals, and substantive chapters. The decision to include publications has enabled me to engage relatively quickly with a fast-moving field of research, and importantly, to communicate with people doing the work of climate change communication. This gives my work greater impact and timeliness. It has allowed me to target different audiences – such as climate scientists, geographers, and communication specialists – and to collaborate with a

number of excellent co-authors. The process of completing parts of the thesis during the study, and gaining feedback from reviewers, has increased opportunities for reflexivity, as I have returned multiple times to papers as they progress through the peer-review process. I have also gained valuable input from a number of anonymous reviewers. Some of the material in this study is less suited to the format of academic publications, and I have taken advantage of the freedom offered by the thesis format to present this work in the form of substantive chapters, in ways that best suit the material. A consequence of the chapters-and-publications approach is that there is some repetition of material, and the authorial voice changes somewhat depending on the journal and audience targeted. I hope that the reader will bear with these limitations in light of the strengths of this structure. Journal publications included as chapters have been formatted, with sections re-numbered, and citation styles changed to match the style of the thesis. Reference lists at the end of each publication have been removed in favour of a single, complete list of references at the end of the thesis.

The thesis is in four parts. In *Part I: Theory*, I utilize theoretical and empirical literature to examine how changing understandings of science, nature and society might affect interpretations of climate change:

- In Chapter Two I set the scene for the research, and establish a conceptual foundation for the study. I describe the challenges of communication that have arisen from the predominantly scientific discourse of climate change. Drawing on social constructivist theory, I examine how late modern perspectives on nature, scientific rationality and individualism have challenged the authority of scientific claims to objectivity, and the ability of society to take collective action on global problems.
- In Chapter Three (published in *WIRES: Climate Change*), I draw together and evaluate literature on trust from a number of disciplines, and describe its implications for what has been called a 'crisis of trust' in climate science.

In *Part II: Quantitative Inquiry*, I investigate what patterns of values and cultural narratives underlie concern and unconcern about climate change in Hobart, Tasmania:

- Chapter Four briefly describes the quantitative methods used in this thesis, complementing the methods sections in the subsequent chapter.
- In Chapter Five (published in *Geographical Research*) I report on the findings of the Hobart Values Survey. I review the findings of other research into the human values

associated with concern and unconcern about climate change, and describe some methodological problems with some of these studies. Using an innovative application of the analysis of human values, I investigate what demographic attributes and human values predict concern and unconcern about climate change.

In *Part III: Qualitative Inquiry*, I investigate the lived experience of unconcern about climate change, asking what people *are* concerned about when they are unconcerned about climate change. I examine the ways in which experiential narratives of people who are unconcerned reflect on the explanations of unconcern present in the literature:

- Chapter Six explains the qualitative methods used in this study.
- Chapter Seven presents ten individual narrative analyses, which I describe as 'vignettes'. Nine of these are analyses of each of my interview participants, gathered from multiple discussions over several months; the last is the reflexive story of my own engagement in this research. In these vignettes, I explore what is important to the participants, and seek to understand the context and logic of their views. I ask how each participant constructs their own identity within the process of these interviews, and examine the cultural narratives reflected in their stories.
- Chapter Eight (a paper in review) reflects on the ways in which my qualitative inquiry into unconcern contributes to the (mostly quantitative) research on climate change attitudes. With my co-author, I review this literature, identifying five main explanations for the sources of unconcern. We present narrative analyses of three of the participants in the qualitative research, each of whom has multiple sources of unconcern, entangled in moral choices and concern for other issues. With reference to Latour's (2004) concept of 'matters of concern', we discuss the importance of social and material context in understanding why people are unconcerned about climate change. We describe the pitfalls of what I identify as a 'concern deficit model' of communication, and discuss opportunities for more self-reflexive and inclusive forms of engagement with the unconcerned.
- In Chapter Nine (a paper in review), I discuss how the innovative methods used in the qualitative inquiry enabled me to engage in trusting and empathetic conversations with people who did not share my concerns about climate change. I describe the ethical considerations arising from this approach, and present the narrative of one of the participants as an example of the way that this method enabled a hidden aspect

of her unconcern about climate change to come to light. I suggest that similar approaches might be useful for other research about politically sensitive issues, particularly when the researcher does not share the views of participants.

In *Part IV: Denouement*, I draw together the theoretical, quantitative and qualitative findings of the thesis and offer a more complete response to the study's guiding research question:

- Chapter Ten returns to the question of why current forms of communication about climate change are failing to connect with some sections of society. I argue that a focus on the values and priorities of the concerned is leads climate change communication to be ineffective and polarizing. I describe seven cultural narratives of unconcern about climate change evident in the empirical material of this study, and place them in conversation with contesting narratives of concern. In conclusion, I explore opportunities that arise from the findings of this study for improved forms of public engagement through a better understanding of the cultures of concern and unconcern about climate change.

A note on ethical conduct

My intent in this study has been to act in a spirit of respect and concern for participants. To this end, I have designed research methods that minimize the risks of harm or discomfort to participants; clarify for participants the potential benefits and risks of the research; and ensure the welfare of the participants in the research context (National Health and Medical Research Council et al., 2014). The study was approved through a full committee ethics application by the Tasmania Social Sciences Human Research Ethics Committee, Human Research Ethics Committee (Tasmania) Network, reference number H0014743.

Participants in the Hobart Values Survey were given information about the purpose of the survey, their right to withdraw, the confidentiality of their information, and how the data would be used and stored, before being asked to agree (anonymously) to a statement of informed consent. For participants in the interview series, information sheets about the purpose, risks and benefits of the study, participants' right to withdraw, and how the data would be used and stored were given at the beginning of the interview process. Initial consent forms were signed at this point. New information sheets and consent forms were introduced during interview 6, after the full details of the aims of the study were clarified, so that participants could give fully informed consent, or choose to withdraw from the process (see Chapters Six and Nine for more details. Information and consent forms for the survey and interviews can be found in Appendices II and III respectively). Interview participants have been given pseudonyms to maintain their anonymity, and identifying information has been omitted from published materials including this thesis.

A note on Australian politics

Some explanation is necessary to describe the context of terms used in Australian politics (and in this thesis) for the international reader. In Australia, legislative power is shared by a national federal parliament based in Canberra, and subnational parliaments in each state. Federally, the Liberal Party, in coalition with the National Party, have been in government since 2013. In Tasmania, the Liberal Party have formed the state government since 2013.

The Liberal Party lists its key beliefs as individual freedom and free enterprise (Liberal Party of Australia, 2017). Not to be confused with 'liberal' in the American sense of progressive, the Liberal and National parties constitute themselves as right-wing, conservative parties. Conservatism is a broad political philosophy that is historically associated with right-wing politics. While this is a tradition with a rich and diverse history, and differs with national context, conservatives tend to promote stability and continuity through traditional social institutions and hierarchies.

In Australia, the main opposition party to the Liberals is the Australian Labor Party. This is a left-wing party that describes its core aim as providing equality of opportunity to all Australians (Australian Labor Party, 2017), and might be described as 'socialist', 'liberal' or 'progressive'.

The Australian Greens Party, which was officially established in 1992 (following its nascent years in the 1970s and 80s as the United Tasmania Group), has become a third major political party, and has governed in Tasmania, in coalition with Labor, on two occasions. It has four key principles: ecological sustainability, grassroots democracy, social justice and peace and non-violence (Australian Greens Party, 2017). Diverse environmentalist movements in Australia are often associated with the Greens, and the term 'greenie' conflates voters for the Greens and people who are involved in environmentalism or who care strongly about environmental issues.

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Commentary

This first part of the thesis establishes the conceptual framework for the study. It introduces theoretical and empirical literature, and begins to develop arguments that provide direction for the rest of the thesis. In **Chapter Two, Setting the scene: Theoretical and empirical context for the research** I describe the problems of the predominantly scientific framing of climate change discourse. I introduce the social constructivist and hermeneutic approach taken in the thesis, and situate my study in the context of theories of late modernity.

Chapter Three, How climate change research undermines trust in everyday life: A review was written in collaboration with Peat Leith and Aidan Davison, my supervisors, in the first year of the PhD. It was published as:

Lucas C, Leith P and Davison A (2015) How climate change research undermines trust in everyday life: a review. *Wiley Interdisciplinary Reviews: Climate Change* 6(1): 79:91.

The paper emerged from a realization that trust, while central to much discussion on climate change communication, is not well understood in this context. Through engagement with a broad range of literatures on trust from different disciplines, I and my co-authors develop a novel argument about the role of implicit trust in public responses to information about climate change. I initiated the idea of this paper, and was responsible for reviewing the literature and the majority of the writing. My co-authors gave me great assistance in the development of the argument, and also drafted sections of the paper. My contribution overall was about 70 per cent of the work involved in this paper (see statement of co-authorship on page ii).

Chapter Two | Setting the Scene: Theoretical and Empirical Foundations for the Research

> It matters what ideas we use to think other ideas [with]… It matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what descriptions describe descriptions, what ties tie ties. It matters what stories make worlds, what worlds make stories.
>
> Donna Haraway (2016: 12)

Thinking is a social act – it does not take place in a conceptual vacuum, as Donna Haraway's meditation on what matters makes clear. My thinking in this thesis builds on concepts and literatures ranging from the environmental to the social sciences. In particular I draw on the disciplines of sociology, psychology, geography and political science, and on the interdisciplinary fields of science, technology and society studies, science communication and sustainability studies. Through these disciplinary contexts, the inquiry connects to particular versions of history and philosophy that matter to the context of my study. My project is also grounded in a material context, the Australian island of Tasmania. This is a place with a particular kind of weather, a particular physical environment, specific people, plants, animals, buildings, beaches, roads, mountains that I interact with and that also matter to the way I live and think. Tasmania also has its own social, cultural and political history and character, which matters to this inquiry and is reflected upon in later chapters. These are just some of the things that have mattered in the inquiry reported in this thesis. In this chapter, I set out the theoretical and empirical context of the thesis. I situate my research with reference to the literatures and conceptual foundations upon which it builds. The conceptual framework introduced in this chapter is engaged by means of a hermeneutic process of interpretation throughout the thesis (Gadamer, 1960). I first introduce the concepts here in order to place them in metaphorical conversation with my empirical data, which I then use to reflect back, and build upon the conceptual framework in a circular process of interpretation (Bernstein, 1982). This process is described in more detail in section 2.4.

An initial concept I use to describe the way in which the matters above matter to the construction of meaning is *discourse*: defined by Maarten Hajer (1993: 45) as:

> an ensemble of ideas, concepts, and categories through which meaning is given to phenomena. Discourses frame certain problems; that is to say, they distinguish some aspects of a situation rather than others. The ideas, concepts, and categories that constitute a discourse can vary in character: they can be normative or analytic convictions; they can be based on historical references; they can reflect myths about nature.

As Hajer describes, the meaning ascribed to something is subject to the matters used to understand it; discourse is an inherently political act. Discourse analysis makes the *discussion* the object of study: language, as the means of discussion, is not just a representation of reality, but shapes understandings of reality (Hajer, 2006). Different discourses 'frame' reality in different ways by placing them in the context of different ideas, concepts and events (Goffman, 1974). In order to understand why current forms of climate change communication are not effectively engaging some sections of society, I look first at the ways in which climate change communication has developed, and examine the assumptions embedded in prevailing discourse around climate change. The first section of this chapter describes how climate change has been framed through a predominantly scientific discourse. I argue that this has led to public disengagement and an unhelpful focus on the science, rather than the politics of climate change. In the second section, I introduce social constructivism as an approach to understanding the social drivers of difference in public attitudes to climate change. In the third section, I describe theories of late modernity as a way of understanding the historical context in which dominant concepts of rationality, nature, and the relationship between individuals and society are being challenged through responses to the collective risk posed by climate change. In the final section, I describe the hermeneutic approach I have taken to put this conceptual framework into conversation with the empirical matter of the thesis.

Because most of the substantive chapters of this thesis are in the form of published and submitted journal articles, theory and method are elaborated in a number of places, with some unavoidable repetition and re-telling for different audiences. This chapter gives an overview of the core concepts advanced in the thesis, with signposts to where they are applied in later chapters.

2.1 The scientific discourse of climate change

Human-induced climate change has been the subject of scientific discussion since the nineteenth century. The theoretical possibility of a 'greenhouse effect' was first proposed by Jean-Baptiste Fourier (1827), and global warming due to large-scale coal burning was predicted by Svante Arrhenius (1896). As evidence of increasing carbon dioxide in the atmosphere accumulated in the 1970s and 80s, climate scientists and environmentalists began engaging with policymakers on the issue (Moser, 2010). Following the model of successful processes of international agreement to limit ozone-depleting pollutants in the Montreal Protocol (1988), international technical advisory committees made up of eminent climate scientists were established under the auspices of the United Nations (UN): first in the form of the Advisory Group on Greenhouse Gases (in 1986), and then in 1988 the Intergovernmental Panel on Climate Change (IPCC) (Agrawala, 1999). These groups of international climate scientists (with the majority coming from developed countries) have played a dominant role in framing our understanding of climate change (Hulme and Mahony, 2010).

Science is in many ways a necessary lens through which to perceive and describe climate change. The physical causes and global effects of climate change are hard to perceive and attribute without scientific investigation and interpretation (Hulme, 2009). Greenhouse gases are mostly invisible, and while we are predisposed to notice short-term changes in weather, longer-term climatic changes are more difficult for individuals to recognize (Weber and Stern, 2011). This need for expert interpretation has led to the construction of a climate change discourse which has been, until relatively recently, almost exclusively scientific (Demeritt, 2001b). This discourse positions accepted knowledge about the empirical facts of climate change as both necessary and sufficient to inform political decisions about how to respond (Lahsen, 2010). Despite recognition in academic circles that science has always been politicized (Gauchat, 2012), scientific knowledge retains an aura of authority in political discourse: science is still widely seen as 'speaking truth to power' (Hoppe, 1999).

The legitimacy of scientific knowledge as a tool for making political decisions is based on longstanding cultural perceptions of science as objective and neutral (Shapin, 2008). However, the establishment of an authoritative 'intergovernmental' body of climate scientists, in the IPCC, was a political exercise that reveals something of the social nature of scientific truth claims. The authority of the IPCC's five assessment reports on climate change is based

on claims to objectivity and neutrality reinforced by ubiquity and agreement: in the quantity of scientific papers it reviews, and the consensus of increasing numbers of experts, backed by international governments (de Torres and Jones, 2013). The claim of scientific consensus has become central to the argument for action on climate change (eg. Cook et al., 2016). As Goodwin (2009) points out, the consensus claim is targeted at the public and policy-makers, rather than at climate scientists themselves, for whom academic independence from *ad populum* arguments is required. Consensus is an appeal to authority based on the social value of expertise, rather than the epistemic grounding of the science (Douglas, 1990; van der Sluijs et al., 1998). The IPCC's interpretation of the current science has also created a dominant social narrative about what climate change is: implying that it is a technical problem, with clear causality in the form of greenhouse gas emissions, and global ownership within a shared atmosphere (Hoppe et al., 2013). This narrative, only one of many ways in which climate change could be defined, has gained social and political dominance thanks to the cultural privilege maintained by science.

Felt and Wynne (2007) argue that systemic features of governance privilege scientific research as 'factual risk assessment', in which problems are defined and the limits of their framing set through a scientific lens, *before* normative questions of ethics, values, costs, and interests can be applied. In this model, democratic evaluation is only legitimate after the 'facts' have been scientifically defined. This approach has come to dominate governance related to environmental management globally (Felt and Wynne, 2007). However, as several examples from the IPCC process have shown, facts cannot be so easily separated from their social context. For example, through the measurement of carbon dioxide as a homogenous substance, normative distinctions between emissions required for subsistence, and those that could be seen as luxuries, were initially ignored by the IPCC (Pearce et al., 2018). This and other 'disinterested' scientific decisions by the IPCC have been described as the basis of a new 'environmental colonialism' by powerful countries who set the scientific agenda (Agarwal and Narain, 1991). Wynne (2006) suggests that a decline in public trust in science is a direct consequence of the failure of scientized models of risk management to take seriously the legitimate concerns of publics whose understandings and definitions of risks do not conform to the framings proposed by scientists. One response of institutions to this loss of trust is an increase in science communication, in which professional communicators take on the role of translating scientific information for a public audience, often through the media. As Bucchi (2008) points out, the existence of a layer of 'translators' between scientists and the public also

frees scientists of the need to communicate with the public themselves, and emphasizes separation of the realms of scientific and lay knowledges.

Climate change communication aimed at the public and policy-makers emerged first as a branch of science communication, with the goal of making scientific information about climate change more available and understandable to a lay audience (Moser, 2016). Implicit in much of this communication is a rationalist, instrumental understanding of public interaction with science. In this simple model, scientists identify the sources of a problem and suggest options for solving it. The public are made aware of the problem and potential solutions through scientific communication, and then support political action in line with scientific advice (Weingart et al., 2000). Lack of action on climate change, according to these assumptions, suggests ignorance or misunderstanding on the part of the public and/or policymakers. Climate change communication by the IPCC and affiliated scientific and governmental institutions has been dominated by 'deficit models' of communication in which the public was assumed to have a deficit of information, education or knowledge about the science of climate change and the risk involved (Beck, 2012). Deficit models consider that better public understanding of science will engender trust in science and consent to policy solutions proposed by technical experts (Trench, 2008; Wynne, 1991). However, this simple model of knowledge transfer neglects affective, cultural and social aspects of communication and interpretation (Slovic, 1999; Wynne, 1991). The importance of these embodied and cultural lenses of interpretation can be seen in the diverse ways in which publics interpret scientific information in different contexts. For example, some groups of environmentalists accept climate science without question, but are deeply critical of the science relating to genetic modification of food. The disparity is not based on differences in the way information is presented by scientists, but in values, social concerns, and commitments to different priorities. While deficit models have been systematically discredited, they remain pervasive (Tàbara et al., 2017; Wynne, 2006). As Demeritt (1996) notes, knowledge claims are claims to power: scientific assertions of objective assessment in relation to environmental risks are able to dominate, and silence those with differing perspectives. Public 'risk perceptions' continue to be framed as subjective and limited compared to the objective and universalising 'risk assessments' carried out by scientists – language suggesting that public perceptions are something to be managed, rather than taken seriously as valid definitions of risk (Wynne, 2007).

The IPCC's first assessment report, released in 1990, in which climate change was decisively framed as a global problem, and thereby a problem for all of humanity, related to carbon dioxide emissions from fossil fuels, underpinned the negotiation of the UN Framework Convention on Climate Change (UN FCCC) in 1992. It set up a process of international negotiations to decarbonize the energy system that led to the Kyoto Protocol on Climate Change in 1997, and most recently the Paris Agreement in 2015. This international process of negotiation between nation-states has been described as "the only game in town" (Sarewitz, 2011: 476) for dealing with climate change – the weight of international scientific and political power has been thrown behind this single goal (Prins et al., 2010). The discursive entanglement of the aggregated entity of climate science with the UN FCCC process has led to the conflation of the consensus on climate science with this contentious political process. The merging of these two processes has led to arguments over the validity of climate science becoming a proxy for discussion about the appropriate social responses to climate change (Prins et al., 2010; Prins and Rayner, 2007; Sarewitz, 2004). The widespread political practice of justifying environmental policy decisions in purely technical terms also forces those who oppose policies for other reasons to engage in debate in terms of the science of climate change (Demeritt, 2006). Focus on the science, rather than the politics of climate change has been exacerbated by the development of an organized 'climate sceptic' movement that has challenged the legitimacy of climate science, suggesting that scientific understanding of climate change is highly contested and publicising the work of a small number of dissenting scientists (McCright and Dunlap, 2010; Oreskes and Conway, 2010).

Despite incremental political commitments to reducing greenhouse gas emissions through the UN FCCC process, fossil fuel emissions are at record levels, and global temperatures continue to rise (Jackson et al., 2017). Scientists warn that the opportunity to keep average global temperature rises within 1.5 °C of pre-industrial temperatures (a stated goal of the Paris Agreement, and one of particular importance to Pacific island nations at risk from sea-level rise) is rapidly disappearing (Rogelj et al., 2015). The urgent task of mitigating and adapting to climate change requires collective global action that appears unachievable through the UN FCCC process alone (Prins et al., 2010; Prins and Rayner, 2007). The failures of the dominant, top-down scientific and intergovernmental approach has also led to increasing calls for more effective public engagement strategies (Corner and Groves, 2014; Demeritt, 2001b; Sarewitz, 2011).

The effort of trying to work together to deal with the urgent and potentially devastating effects of global warming reveals both the growing cracks in existing social systems, and the difficulties of generating cooperation and action in pluralist societies. In Chapter Three, I describe how the monolithic structure of climate research embodied in the IPCC has been implicated in a loss of trust in climate science. I return to the subject of climate change communication in Chapters Eight and Ten. In the following sections of this chapter, I introduce theories used in this thesis to enable an examination of the social drivers of disagreement in climate change discourses.

2.2 Social constructivist foundations of the thesis

In the natural sciences, there is generally thought to be a direct relationship between scientific theory and observed reality (Sismondo, 2010). Fact is taken to be independent, deductible by scientific observation and analysis through the application of 'scientific method' (Bernstein, 1983). This 'positivist', or 'objectivist' epistemology, inherited from the Enlightenment, underpins the majority of western scientific and popular understandings of the world (Feyerabend, 1987). An alternative view is posed by social constructivists, who see science as an essentially social process. In this epistemology, knowledge, including that classed as scientific, is contingent and socially situated, dependent on the concepts, methods and technologies in play at the time and place of its production, and by the discourses and frames of reference from which it draws. This is the basis of the social critique of science by scholars such as Harry Collins, David Demeritt, Donna Haraway, Sheila Jasanoff, Bruno Latour, Steven Shapin, and Brian Wynne, under the banners of Science and Technology Studies (STS) and the Sociology of Scientific Knowledge (SSK). The major achievement of these scholars is to unmask the social practices intrinsic to the construction of what is described as objective fact. Social constructivism emerged from what Bernstein (1983) describes as the twentieth century project to exorcize the 'Cartesian anxiety' of mind/body dualism by philosophers such as Hans-Georg Gadamer, Thomas Kuhn, Ludwig Wittgenstein and Martin Heidegger. Constructivist studies are diverse in their understandings and definitions of social constructivism (Hacking, 1999). The rest of this section therefore aims to elucidate the form of social constructivism used in this thesis, and to describe how it enables a more nuanced understanding of the relationship between subject and object than is assumed in positivist studies.

2.2.1 Dissolving the subject/object boundary

A common criticism of social constructivism is that it is essentially relativist. Some critics argue that constructivism undermines the status of nature as a reality external to society, with its own intrinsic value; and in doing so hampers efforts to prevent real environmental damage (Proctor, 1998). Social constructivist approaches are multiple, but do not generally claim *ontological* relativism (Radder, 1992) – that reality itself is socially constructed. Social constructivism is consistent with ontological realism, but notes that our concepts of reality, the language we use to describe it, and our practices of interacting with the real are socially contingent, and thus affect our understanding of reality (Demeritt, 2001b). The aim of social constructivism (in the form used in this thesis) is not to question the existence of *things*, but on the contrary to see them as agents within the social, dissolving the modernist dualism that divides humans and nature into two distinct categories (Latour, 1993). Demeritt (2001b: 311) describes this as the 'heterogeneous construction' of nature, science and society, in which "things-in-the-world are disclosed to us as objects through practical engagements that configure them in ways that are recognizable *for* us and transforming *of* us" (italics in original).

A related criticism levelled at social constructivism is that it is *epistemologically* relativist: if there is no framework external to the systems of culture in which knowledge is created against which to judge claims, all knowledge claims must be seen as equal (Hacking, 1999). Even constructivists such as Collins and Evans (2002: 236) worry that this undermines science, asking "if it is no longer clear that scientists and technologists have special access to the truth, why should their advice be specially valued?" It is important not to conflate the social constructivist revelation of the unavoidable partiality of scientific knowledge with complete refutation of its truth (Demeritt, 2001b). The form of social constructivism used in this thesis sees claims of 'truth' and 'fact' as interpretations of reality, rather than flowing directly from it (Collins, 1998). Nevertheless, these interpretations are essential in as much as they enable us to make sense of reality as we experience it. Value judgements can still be made, but are seen as culturally situated, rather than universally given (Obeyesekere, 1966). This does not mean that 'anything goes', as no culture can be said to be truly independent: moral choices must therefore be negotiated (Beck, 1992). Social constructivism enables negotiation because it unveils the cultural bases on which moral judgements (which are often purported to be natural, or universal) are made.

Bernstein (1983) suggests that the modern dichotomy of objectivist (factual) and relativist (value-laden) accounts of the world can be dissolved through hermeneutic interpretation, in

which meaning comes into being through the *event* of understanding, which is a circular form of dialogue between subject and object. This is also evident in social constructivist epistemologies (Demeritt and Dyer, 2002). The subjective – social context, cultural narratives and assumptions – is essential to understanding the object, but also demands reflexive recognition of its constructive influence (Baert and Rubio, 2009). In the circular dynamic of hermeneutic interpretation, the object and subject are seen as fluctuating and interdependent (Bernstein, 1982). Accepting both the existence of a reality that transcends human thought and action, and the contextual basis of all claims to knowledge, social constructivism dissolves the dichotomy between objectivism and relativism, allowing both subject and object a wider range of overlapping possibility.

2.2.2 Objectivity and reflexivity in social constructivist studies

Methodologically, social constructivism allows for the examination of plural forms of knowledge. Pluralism is not equal to relativism, but recognizes the existence and legitimacy of diverse views within society without making judgement about their claims to truth (van Bouwel and Weber, 2008). From a social constructivist perspective, because researchers are themselves embedded in social contexts that affect their understanding of the world, their account is necessarily partial. Haraway (1988) argues that as there is no way to *be* simultaneously in all positions of class, gender, race, nation etc., the only true perspective is partial and embodied, contingent on history, geography, language and culture. Feminist theorists including Haraway (1988, 1992, 2016) and Harding (1986, 1993) are unwilling to jettison the concept of objectivity, but reclaim it from the natural sciences, proposing that 'stronger' forms of objectivity must methodologically aim to reveal the values, assumptions and cultural narratives embedded in the concepts, questions and practices of the research. Haraway argues that the multiple perspectives of partial and embodied accounts of the world are more rational, and more constitutive of reality than the 'view from above' of an empiricist model of science. This form of objectivity is not a claim to universal truth.

A method for 'strong objectivity' (Harding, 1993) that blurs the distinction between subject and object emerges from standpoint theory. Standpoint theory seeks to avoid unreflexive re-iteration of dominant cultural narratives. It suggests that situating inquiry in the lives of marginalized social groups will generate illuminating questions that do not arise in inquiry that begins with dominant groups. This does not imply that the researcher themselves need be from a marginalized group, but demands reflexivity, because:

> beliefs function as evidence at every stage in scientific inquiry: in the selection of problems, the formation of hypotheses, the design of research (including the organization of research communities), the collection of data, the interpretation and sorting of data, decisions about when to stop research, the way results of research are reported, and so on. (Harding, 1993: 69)

Researchers must therefore reflexively consider and report their own positionality in relation to the research question, the participant, and social discourses, in order to claim objectivity in relation to the socially situated view of the research (McCorkel and Myers, 2003).

Reflexivity is a crucial but highly ambiguous concept (Ashmore, 1989). In sociology it most often alludes to an individual's awareness of the social-constructedness of being: for instance, Davidson (2012) describes reflexivity as an individual's conscious construction of their life course in relation to their position in the world. However, as Latour (2003: 36) points out, "'reflexive' does not signal an increase in mastery and consciousness, but only a heightened awareness that mastery is impossible." The concept of reflexivity is also used by social constructivist theorists Anthony Giddens and Ulrich Beck as a way to link the process of making sense of one's life as an individual in society with the collective effort of reforming socio-political norms and practices. Beck's (1992) theory of reflexive modernization implies the idea of a *reflex* in the sense of an action that occurs in response to a stimulus: reflexive modernization is society's 'self-confrontation' in response to the unexpected stimulus of 'mega risks' such as climate change. Through public understanding of the socially-constructed essence of these risks, Beck argues, society has the opportunity for structural transformation toward more sustainable and inclusive social and political institutions (Beck, 1992). However, reflexive modernization also implies *reflection* about the social practices through which these risks are enacted. Giddens (1990) suggests that reflection by individuals and organisations enabling practices to be constantly re-negotiated is central to reflexive modernization. He develops this argument in describing the 'reflexive project of the self' (1991: 14) in which identity is constructed through constant series of choices, as part of a broader social modernizing process:

> Each of us not only 'has', but lives a biography reflexively organized in terms of flows of social and psychological information about possible ways of life. Modernity is a post-traditional order, in which the question 'How shall I live?' has to be answered in day-to-day decisions.

Reflexivity thus has a double meaning in which the concepts of reflex and reflection interact (Boström et al., 2017), as both a societal reaction to risk that involves re-shaping social structures (Beck) and an individual response that involves conscious shaping of one's identity, relations, ideas and practices (Giddens) within new forms of modernity. In this thesis, I attend to both institutional and individual meanings of reflexivity. I suggest that individuals' attitudes to climate change are produced through reflexive interaction with their social context. In Part III of the thesis, I describe the qualitative inquiry in which I involved participants in a guided process of reflection on their attitudes within their own social contexts. I have also tried to be reflexive in the sense of critically evaluating the effects of my own cultural context and that of the discipline within which I work on the process of research, being wary of the dominant narratives and assumptions embedded within my perspective (Dowling, 2010). This kind of reflexivity is evident throughout the thesis, but is discussed explicitly in Chapter Seven, where I construct my own 'vignette' after those representing the narratives of participants; in Chapter Eight, where I discuss the need for reflexivity in climate change communication; and Chapter Nine, in which I describe how the innovative qualitative methods used in this project involved reflexivity and attention to my positionality in relation to participants. I reflect on the possibility of political change through processes of reflexive modernization in Lucas and Warman (2018), which can be found in Appendix I.

I draw and build on the work of Giddens and Beck (in particular Beck, 1992; Beck et al., 1994; Giddens, 1990) throughout the thesis. In the following section, I describe Beck and Giddens' theorization of the current moment in history as an opportunity for transition from modernity to late modernity through processes of reflexive modernization.

2.3 Living in late modernity

Giddens (1990) describes the current historical period in western democratic societies as 'late modernity'[2]. The modern period, (taken as existing from the seventeenth century until about 1950) broke from traditional agrarian societies through rapid industrialisation, the

[2] Giddens (1990, 1991) also uses the term 'high modernity'. Beck most often refers to it as 'second modernity' (Beck, 1992; Beck and Grande, 2010; Sørensen and Christiansen, 2014). Bauman (2000) also refers to late modernity.

development of the nation-state, global colonialism, wage labour, capitalism, and dependence on fossil fuels (Giddens 1990). While post-modern and post-structural theorists argue that the current era involves a rejection of, and freedom from traditional structures of power, late modern theorists see no evidence of a new era in which the defining aspects of modernity have been superseded (Giddens, 1990). They point to the rapid social change of the times in which we live as a sign of a late and transformational phase of modernity. Late modernity is a time in which many of the structures of modernity still exist, but are subject to erosion and transformation by interaction with new social forms and changing environmental realities. An example of this would be the way in which internet technologies are enabling the dissolution of the modern geographical boundaries of political movements and nation-states through globalized communication and consumerism.

Modernity is characterized, according to Beck (2010), by three fundamental assumptions: a concept of rationality as *scientifically defined*; a concept of *nature as a resource* to be exploited; and the *institutionalized individualization* and individual internalizing of systemic risks. In the following three sections I briefly describe how these defining features of modernity are being altered in the transition to late modernity, and how these changes are examined through the thesis.

2.3.1 Scientifically defined rationality

The beginnings of modernity coincided with the 'Age of Enlightenment' of the seventeenth and eighteenth centuries. Reason, understood as a cognitive capacity independent of bodily experience and cultural conditioning, became the primary source of legitimacy and authority, and science replaced religion as the pre-eminent method of understanding the world in western societies (Bernstein, 1983). The Enlightenment also brought modern narratives of progress, in which humans are seen to be constantly advancing and improving by virtue of building on the knowledge of previous generations (Nisbet, 1979). The confident expectation within modern societies that challenges facing humanity will be overcome through technological innovation is a product of cultural narratives framing human progress as natural and inexorable (Beck et al., 1994). As well as being the pre-eminent institution for constructing knowledge, modern sciences have changed the world, through the technological development of everything from the atom bomb to the iPhone. Risks, which in the pre-modern period were seen as arising from sources external to societies, in the modern period are seen to be manufactured by societies through scientific and technological innovations

(Beck, 1992). Science[3] and technology, as well as being the pre-eminent tools for measuring, calculating and controlling risk, are thus themselves a major source of risk.

In late modernity, ecological and humanitarian crises have prompted societies to question modern narratives of progress. There is now a recognition that the twin products of scientific innovation are both prosperity and risk (Beck, 1992). This recognition has led to a shift in attitudes to risks, in which scientific knowledge is no longer seen as sufficient to define their nature or scope (Wynne, 1991). As I argue in Chapter Three, trust in the authority of expert knowledge is diminishing. Modern trust in science was founded on claims of objectivity through experimental replicability and personal and institutional integrity (Shapin, 1994, 2004). In late modernity, experts often produce conflicting explanations of risks. There are a number of reasons for differences in scientific explanations, including the ever-closer relationship of science with corporate and political institutions (Haerlin and Parr, 1999; Shapin, 1994, 2004); the way that social and political values and assumptions inherent in scientific practices are obscured and hidden (O'Lear, 2015); and the massive complexity of interacting social, technological and ecological systems (Stirling, 2003). Beck describes a re-evaluation of instrumental scientific rationality as the inevitable outcome of risks created by techno-industrial development (Beck et al., 1994).

During modernity, risks related to technological development were clearly defined by the traditional authorities of science and government. Any disagreements were resolved through appeals to hierarchical order and authority (Beck et al., 1994). In late modernity, there is ambiguity as to the nature of every risk. Risk cannot be measured and understood through scientific method alone, as it is essentially social and value-laden – it must therefore be evaluated through a process of social negotiation (Beck, 1992). This is particularly clear when

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[3] It is important to note that science is a diverse and heterogeneous set of practices that focuses on an enormous variety of subjects in a vast array of contexts. There is extensive literature on how scientific knowledge is viewed from within the sciences (Latour and Woolgar, 1986; Stengers, 2000). In this thesis, I focus on public attitudes to scientific expertise, rather than those from within the sciences – therefore where I refer to 'science' it is to the common idea of science as the over-arching intellectual institution dedicated to systematic study of the physical world through observation and experiment.

the risk involves issues that constitute both global and personal risks, such as climate change. Problems arise when political parties and other vested interests appeal to particular social values to drive a wedge between publics on issues such as climate change (Antonio and Brulle, 2011; Hoffarth and Hodson, 2016). This can be beneficial for parties' electoral chances. However, it contributes to a process of public polarization. As groups with particular values and opinions communicate internally, but cease to communicate externally, with those who have differing and heterogeneous views, the views *within* groups become more extreme, and increasingly different to those of other groups (Sunstein, 2002). In the case of climate change, this is exacerbated by media representation of the issue as a conflict between two extremes (Boykoff and Boykoff, 2004; Hart et al., 2015). Polarized discussion of climate change reduces the number and variety of narratives and definitions in circulation; it limits the social imagination of possible futures (Norgaard, 2017). The resulting combative, all-or-nothing discourse also hinders decision-making and action (Gromet et al., 2013; McCright et al., 2014; Tvinnereim, 2015).

For Beck, discourse that breaks down polarization, through engaged and reflexive deliberation, is part of the process of reflexive modernization, in which modernity has the opportunity to re-make itself (Beck, 1992; Beck et al., 1994). This late phase of modernity involves the empowerment of laypeople to evaluate and negotiate risk through sub-political processes, free from the structural dominance of scientific and government institutions (Beck et al., 1994). The sub-political sphere is a decentralized space in which issues that were once resolved exclusively by expert authority or centralized governance are re-politicized, and re-opened to democratic contestation, deliberation and negotiation by members of the public (Beck et al., 1994). In Lucas and Warman (2018) (Appendix I) I describe how negotiation and conflict resolution on forestry in Tasmania has taken place in the sub-political sphere, and develop a novel concept of 'ruts' in public discourse, building on the theory of reflexive modernization.

2.3.2 Nature as a resource

There is a longstanding epistemology in many modern societies representing the natural and the social as separate realms. Giddens argues that a traditional, pre-modern understanding of what is natural is 'what remains outside the scope of human intervention' (Beck et al., 1994: 76). This perspective, which has persisted into modern times even as the spaces outside the scope of human intervention disappear, sees nature as external, often god-given, and pristine (Castree, 2001). An idea of nature as an external, measurable system is also the foundation of

modern scientific claims to objectivity. These claims assume the existence of nature independent of human interpretation, and the ability of scientists to observe it directly, and test their knowledge empirically (Demeritt, 2001a). While in pre-modernity, nature was perceived to dominate humanity, it has become the resource that powers modernity (Beck et al., 1994). Efforts to tame and control nature, framed as imposing order on chaos, were a principal project of modern colonialism and development (Urry, 2000). Beck and Giddens suggest that the success of this project has created environmental risks that demand a profound re-evaluation of both nature and modernity (Beck et al., 1994).

The modern belief that natural resources were limitless sources of economic growth has been discredited by the emergence of ecological crises such as mass extinctions, global pollution and climate change (Beck et al., 2003). These crises have been described as heralding an Anthropocene epoch (Crutzen and Stoermer, 2000), in which human impacts on nature have become so over-arching that nature outside of culture can no longer be said to exist. However, from a social constructivist perspective, nature has always been cultural. The ontological separation of the natural and the social is not a universal assumption of pre-modern or modern times: feminist theorists suggest that nature/culture dualism is a product of patriarchal power that does not represent the totality of western human-nature experiences, let alone those of non-western societies (Merchant, 1980; Plumwood, 1993). Latour (1993) argues that the separation of nature and culture is a fiction perpetuated by 'moderns' to enable the concept of scientific objectivity, and consequently to authorize attempts to exercise dominion over nature. He argues that we have never been modern – modern discourse only masked the understanding that the boundary between nature and culture has never existed.

However, an insistence on the separation of nature and culture in what Latour (1993) describes as the 'modern constitution' continues to shape current responses to environmental problems. Concepts such as 'wilderness' and 'nativeness', for example, that imply forms of nature distinct and separate from human society, are encoded in environmental law, and given status over 'less natural' forms such as introduced species (McDonald et al., 2016). Conflicts about environmental issues continue to pit those who see nature as an external resource against those who argue that humanity has upset 'natural order' through the exploitation of nature. Both of these perspectives share an assumption that objective facts about nature and the environment can be identified and used to make moral judgements about appropriate human actions in relation to nature (Castree, 2001). Social constructivists, however, argue that as nature is inherently a cultural concept, prospects for its objective study lie in taking

multiple subjective perspectives (Haraway, 1988). Constructivist conversations about nature reveal the desires, fears and stories underlying people's understanding of the natural: metaphors of nature as 'other' to culture, as harmonious and balanced, or as fragile or resilient, for example (Scoones, 1999). In Chapter Five I find that seeing nature as a resource is a strong predictor of being unconcerned about climate change, related to a history of conflict over natural resource use in Tasmania (Lucas and Warman 2018). I explore interviewees' perceptions of nature in Chapters Seven and Eight, and in Chapter Ten I return to cultural narratives of *nature as a resource* to reflect on the way that discourses about nature are involved in transitions to late modernity.

For Beck and Giddens, the transition into late modernity is characterized by the emergence of 'mega-risks' that are the product of modern reliance on nature as a resource. These are 'hybrid objects' (Latour, 1993) that refuse to conform exclusively to either the natural or the cultural. Climate change is one such hybrid object, mutually constructed by nature and culture through a vast network of complex interactions between humans, technologies, elements, environments, ideas, and other species (Esbjörn-Hargens, 2010; Hulme, 2010). Because they are both natural and cultural, these risks defy scientific definition; their meaning must be socially negotiated (Beck, 1992; Giddens, 2008). If this is the case, it poses a challenge to late modern societies: in a world where science has lost the authority to arbitrate between contested meanings and proposals for these risks, how can the fragmented efforts and choices of seven and a half billion people be harnessed to contend with immense collective risks such as climate change?

2.3.3 Systemic individualization

Giddens (1990, 1991) argues that traditional models of society imposed roles on the people within them: membership of collectives such as churches, political parties, industries, and nation states was relatively stable and passed down generations. In modernity, individuals have been 'disembedded' from the certainty of membership of the collectives that defined many pre-modern societies (Giddens, 1990). The right to determine the shape of one's own life, rather than surrender to the demands of collectives, is for Giddens both an achievement and a curse. The price of this freedom is the individualization of society which makes solidarity of purpose weaker and less meaningful (Taylor, 1991). Beck and Giddens argue that modern individualization is a systemic shift: the individual has been put at the centre of discourses on rights, education, work and politics (Beck et al., 1994). As Beck and Beck-

Gernsheim (2002: xii) put it, "the individual is becoming the basic unit of social reproduction for the first time in history."

Late modernity involves greater reflexivity about individual roles, and the formation of new social roles centred on individual choice (Beck et al., 2003). However, it is a world in which, as Giddens (Beck et al., 1994: 58) says, "opportunity and danger are balanced in equal measure." Politically, increasing focus on the freedom of the individual has empowered ideologies that advocate that the interests of individuals should take precedence over those of the state, and that individuals should be free to pursue their interests without interference by government (Triandis, 1993). Competition between individuals underpins the free-market capitalism that has dominated the late twentieth and early twenty-first centuries (McGuigan, 2014). Perversely, individualization leads to the fragmentation of collectives and this leaves individuals with less power and freedom. Through the 'ideology of privatization' (Bauman, 2008) all problems become personal: the idea of solidarity or common cause is seen as counter to individual freedom. Responsibility for global and collective risks such as climate change is individualized through discourses of insurance and consumption, while the structures of social, corporate and political institutions simultaneously limit the power of individuals to reduce the risk (Norgaard, 2017; Shove, 2010). For Beck and Giddens, this is more evidence that politics-as-usual is not able to deal effectively with mega-risks such as climate change. The opportunity offered individualization of risk, as they see it, is for individuals to challenge expert-led definitions of risk by becoming involved in sub-political negotiations that challenge the *status quo* through processes of reflexive modernization (Beck et al., 1994).

This thesis is concerned with understanding how individuals form attitudes to climate change through reflexive interpretation of their interactions with the social and material contexts in which they live. In Chapter Eight I examine individualization as a source of unconcern about climate change, with reference to existing literature and the qualitative interviews described in Chapter Seven. I return to this concept in Chapter Ten.

2.3.4 Is this late modernity?

This study is situated in a time and place of rapid social, ecological, political and climatic change. This has been evident even during the relatively short period of this study, in which neither the set of phenomena interpreted as forming the 'climate', nor the politics of climate change have remained stable. According to climate scientists, 2013-2017 was the warmest five year period on record, the global average temperature rising over 1.0 °C above the pre-

industrial average (World Meteorological Organisation, 2017). In 2014, the Australian Government granted federal approval for Australia's largest ever coalmine, to be built by Indian company Adani, and situated adjacent to the Great Barrier Reef. The interviews described in Part III began in September 2015, a week after 'climate sceptic' Tony Abbott (Chubb and Nash, 2012) was replaced as prime minister by Malcolm Turnbull, who was expected to overhaul Australia's climate policy. Later that year, still during my qualitative fieldwork, signatories to the Paris Agreement of the UN FCCC agreed to aim for a 1.5 °C average global temperature increase from pre-industrial levels, and to reduce greenhouse gas emissions to that end. My fieldwork continued until March 2016, during the time in which Donald Trump emerged as a contender for the United States (US) Republican presidential candidate, campaigning with a promise to 'end the war on coal', 'cancel' the Paris Agreement, and describing climate change as a 'hoax' (Bomberg, 2017). Trump was elected US President in November 2016, and in June 2017 pulled out of the Paris Agreement. Raised sea temperatures over Australian summers of 2016-17 generated mass coral bleaching across 1500 km of the Great Barrier Reef.

The events described above illustrate several strands of the discourse on climate change that dominate its representation in the public sphere. The climate is represented by scientific descriptions of globally aggregated data. Action to mitigate climate change is described as a challenge for the leaders of nation-states, most of whom, informed by scientists through the IPCC, collaborate through the UN FCCC process to agree goals for the reduction of specific gases from the atmosphere. Political opposition to such action is exhibited in the responses of right-wing leaders such as Trump and Abbott, who focus their rhetoric on national economic interests, and express doubt about the veracity of the science of climate change. Despite clear and present environmental damage from rising temperatures, the economic benefits of coal are seen by the current federal government to outweigh the value of protecting environments such as the Great Barrier Reef.

In many ways, these aspects of the dominant discourse on climate change conform to the concept of modern, rather than late modern society. Scientific rationality is the predominant way that climate risk is characterized, and the process for dealing with it relies on the authority of nation-states. Nature is still seen primarily as a resource. The importance of free-market economies to political decisions about climate change suggests that ideological individualization is prevalent, while individuals are disempowered to act collectively.

However, there are signs of transformation into late modernity. Primarily, it is becoming clear that society is not in control of the climatic change that has been unleashed. The dominance of scientific rationality as a means to define policy is thrown into question by right-wing politics, although the alternative values brought to bear by Trump and Abbott are limited to the economic. However, consideration of other forms of value, such as indigenous land rights, Pacific Island sovereignty, intrinsic value of other species, and ecosystem health, are prominent in the public response to the proposed Adani coal mine (Meadows, 2017; Morgan, 2017). In this public debate about climate change, the focus is not on nature as a resource – representations of nature are given wider scope. Individuals are also involved in sub-political movements, such as the public movement to divest from fossil fuels (Ayling and Gunningham, 2017), and grassroots community efforts to re-make sustainable lifestyles (Kent, 2012). Such collective actions speak to the "incipient return of the political" (Swyngedouw, 2014) through the mobilization of publics against inequality and unsustainable development. These movements grasp the opportunity offered by climate change – to re-engage with and transform society as we know it by asking "how do we wish to live?" (Beck, 1992: 119). Nevertheless, the long tentacles of modernity continue to entangle society in the form of enduring cultural narratives, systems and practices upon which many people have long-standing dependency and reliance.

2.4 Interpretive and analytical approach of the thesis

I have taken an inductive approach to answering the central question of this thesis. I have followed trails of thinking through a number of different literatures and different disciplines, and have gleaned concepts, theories and methods to help me to address different aspects of the research question. In applying these conceptual tools to my empirical study, I have followed a hermeneutic process of interpretation, in which I reflect on the ways in which the concepts enable understanding of the data, and then reflect on the ways in which the data enable further interpretation or challenge to the conceptual framework (Gadamer, 1960). This form of hermeneutical method is sometimes referred to as 'productive hermeneutics', and is associated with the philosophies of Gadamer and Heidegger (Patterson and Williams, 2002). It is constructivist, in that it does not describe meaning as self-evident and waiting to be discovered, but as constructed through the process of reading and interpreting text (Bernstein, 1982). In some parts of the thesis, this has been an iterative, circular process of reflective interpretation that has involved multiple back-and-forth readings of the material (and also multiple interactions with quantitative data). I describe the specific methods that I

have used in the quantitative and qualitative sections of the thesis in Chapter Four and Chapter Six.

Hermeneutic approaches situate the phenomena being interpreted within a larger context: the researcher's experience and understanding of this context involves pre-conceptions that are necessary to the interpretation of phenomena, and also implicate the researcher in the construction of meaning (Patterson and Williams, 2002). The circular form of hermeneutic processes of interpretation mean that they can never be considered complete to the point that a single valid meaning emerges (Bernstein, 1982). They are therefore consistent with plural forms of knowledge. As is inherent in the constructivist approach I have taken, the claims to knowledge made within this thesis are partial and situated, reflecting particular contexts of experience that are described within the thesis. A pluralist approach also allows me to engage with people whose values, assumptions and opinions are different to my own, without making normative judgements, or seeing these differences as evidence of irrationality or bias. This is both important to enable open communication with people whose attitudes are 'other' (see Chapter Nine), and to reflect on the practices of communication about climate change that tend to be unreflexively repeated. Rather than making claims to objective truth, the constructivist approach of this thesis emphasizes the methodological efforts I have made to situate knowledge within a context, and to reflexively interrogate the biases and assumptions of my own worldview. In this way, I hope to gain the reader's trust, and to persuade them of the integrity of this study. This chapter has shown how the scientific discourse of climate change has led to climate change communication with an implicit rationalist, instrumental understanding of public interaction with science, that has generated deficit models of communication. It has described how expert-led risk analysis in late modernity is failing to engender public trust, because such analyses disregard the social and value-laden aspects of risk. In the following chapter, I look further at what it means to trust, and how different forms of trust are evident in the ways individuals and groups respond to communication about climate change.

Chapter Three | How Climate Change Research Undermines Trust in Everyday Life: A Review

Chloe Lucas, Peat Leith and Aidan Davison

Published as: Lucas C, Leith P and Davison A (2015) How climate change research undermines trust in everyday life: a review. *Wiley Interdisciplinary Reviews: Climate Change* 6(1) 79:91.

Abstract

Empirical and theoretical research on trust has received little attention in climate change literature despite the central role of trust in determining responses to climate science. We reassess the challenge of climate change communication in light of recent research on trust across social, psychological, and neuroscientific disciplines. We argue that networks of explicit and implicit trust in everyday practices are a foundation of stable society. Climate change research demands that we re-evaluate our trust in many elements of our everyday lives in a way that is profoundly unsettling. The threat posed to networks of trust by climate science has contributed to political polarization of the issue. Such adversarial debate has its source not in competing biophysical claims, but in different networks of trust in existing socio-technical systems. We argue that a more nuanced understanding of the psychological and social foundations of trust offers opportunities for messengers of climate change to connect with alienated publics. We conclude that the challenge of climate change communication is not primarily to engender trust in scientific claims, but to re-align the networks of trust that make everyday life possible.

3.1 Introduction

Trust has become the foremost issue in research about public acceptance of science (Wynne, 2006). While some scientists tend to see scientific illiteracy as the cause of public resistance to scientific claims (Besley and Nisbet, 2013), numerous studies have demonstrated that a loss of trust in scientific institutions and scientists, rather than lack of education, is the key reason for public opposition (Gauchat, 2012; Wynne, 1992). But, as Engdahl and Lidskog (2014) observe, there has been relatively little focus within the literature on the public understanding of science on the nature and meaning of trust, and why and how it manifests at interpersonal and societal levels.

Research on trust, from its manifestation in the biochemistry of the brain to its role in social group and identity formation, provides important lessons for the climate research community, which in recent years has seen its trustworthiness questioned by many (Jasanoff, 2010). Lack of public trust in scientific experts has been blamed for the failure of climate change communication to persuade the public and politicians of the need for urgent action (Reusswig and Lass, 2011). In this paper we examine important points of intersection across psychology, neuroscience, sociology and political science. We argue that, taken together, these literatures suggest that polyvalent networks of trust stabilize society and enable everyday life. Where certain sub-cultures and societal groups (hereafter publics) have lost trust in the science of climate change, there are opportunities for climate research to re-evaluate this loss of trust and to consider ways of reconnecting with disaffected publics through trust networks.

3.2 Background

3.2.1 Trust in climate research

In 1988, the United Nations (UN) established the Intergovernmental Panel on Climate Change (IPCC) to act as an internationally accepted authority on climate change. Through the contributions of thousands of climate researchers from across the world (mostly from wealthy nations), the IPCC produces consensus reports based on reviews of scientific literature. These are the most authoritative consensus documents about climate change, its impacts and the risks and opportunities it presents. While some criticism of the organisation's political and scientific aims and processes has circulated from the outset (Boehmer-Christiansen, 1994), it initially enjoyed a generally high level of public trust (Beck, 2012).

However, as climate change has become an increasingly public and urgent issue, several events have drawn attention to problems within the IPCC. The most famous of these is known as 'Climategate'. Less than three weeks before the 2009 UN Climate Change Conference in Copenhagen, 1079 emails stolen from the Climatic Research Unit at the University of East Anglia were posted on the Internet by an unidentified hacker. Conservative media across the English-speaking world quickly and decisively framed the story. For example, one day after the release, Australian Herald Sun and Daily Telegraph journalist Andrew Bolt posted a small selection of the emails on what the Herald Sun (2013) claims to be 'Australia's most read political blog'. Bolt said that the emails revealed:

> ... the greatest scientific scandal of our time – a conspiracy by warmist scientists to fudge statistics, sack sceptical scientists, block the release of data to prevent

> checking, illegally destroy data, deceive reporters, censor sceptical papers, and hide errors in their work. (Bolt, 2009)

James Delingpole, a journalist at the right-wing UK Telegraph, coined the term 'Climategate', referencing the well-known narrative of Watergate, associated with the lies, scandal and cover-up that led to the end of the US presidency of Richard Nixon (Bricker, 2013). Despite the scientists' eventual exoneration, the damage to public trust in climate science was done. The erosion of trust was further compounded in January 2010 when a mistake in the IPCC's Fourth Assessment Report was uncovered. The report wrongly suggested that Himalayan glaciers could melt by 2035. This error was apparently due to the misreading of a non-peer-reviewed article by the World Wildlife Fund, which itself contained a typographic mistake (Cogley et al., 2010). According to Hoppe et al. (2013), these events created public doubt in the integrity of the IPCC that set the tone for the Copenhagen Climate Change Conference a few days later, and contributed to the deadlock in international negotiations about binding targets for greenhouse gas reductions after the expiry of the Kyoto Protocol in 2012. The persistence of this deadlock is arguably linked to on-going decline in public and political faith in the IPCC since Climategate.

While the diversity of questions and techniques used in different studies makes it hard to get a clear picture of international public opinion on climate change over time, a number of surveys from Anglophone countries appear to show a decline in concern about and belief in climate change around the time of Climategate (Australian Bureau of Statistics, 2012; Ipsos MORI, 2010; Leiserowitz, Maibach, Roser-Renouf, Smith, et al., 2012; Saad, 2014). This decline cannot be attributed to a single cause and the global financial crisis is also likely to have affected levels of concern. In the UK, an Ipsos MORI (2010) poll showed a decline in the number of people who thought that climate change is 'definitely a reality' from 44.3% in 2009 to 31% in 2010. The same poll found a 10% rise in those who thought claims about climate change were 'over-exaggerated'. A US Gallup poll also showed a large rise in the belief that climate change news reports were exaggerated, from 35% in 2008 to 48% in 2010 (Saad, 2014). This number has subsequently reduced, but in 2013 the same poll showed that 41% still believe the news about climate change to be exaggerated. The Gallup poll shows that US concern about climate change has risen from a low of 51% in 2011 to 58% in 2013, but is still below the 60-66% levels seen in 2006-2009. Recent surveys by the UK Government's Department of Energy and Climate Change (2014) show a slight rise in concern about climate change (from 65% in 2012 to 68% in 2014) but also find a decrease in the proportion

of people who attribute climate change to human activity, from 38% in 2012 to 35% in 2014. Patt and Weber (2013) also see evidence of an increasing gap between scientific consensus and public perception of the anthropogenic influence on climate change. While there has been some bounce back, surveys of public opinion in the US, UK, and Australia show levels of concern about and belief in climate change remain lower than before 2010 (Australian Bureau of Statistics, 2012; Department of Energy and Climate Change, 2014; Leiserowitz et al., 2014; Saad, 2014) Research also reveals declining trust in scientists at this time. UK surveys found that the number of people who trusted non-government climate scientists fell from 68% in 2006 to 51% in 2011 (Shuckburgh et al., 2012), while US surveys found a 10% decline in public trust of climate scientists between 2008 and 2012 (Leiserowitz, Maibach, Roser-Renouf and Hmielowski, 2012). Stoutenborough et al. (2014) attribute a significant decline in both trust and usage of sources of information about climate change including newspapers, radio, television, the Internet, government sources and environmental groups to Climategate. Leiserowitz, Maibach and colleagues found that Climategate was linked to an observed decline in public belief in climate change and trust in scientists in 2010 (Leiserowitz, Maibach, Roser-Renouf, Smith, et al., 2012; Maibach et al., 2012). However, this effect was mainly within ideologically conservative groups.

In 2010 public controversy surrounding the IPCC led UN Secretary-General Ban-Ki Moon to order an independent review of the organisation by the InterAcademy Council (IAC), an international organisation of science academies. The IAC review highlighted a lack of transparency in IPCC processes of assessment and communication. A flood of analysis ensued. Several writers criticized the IPCC's use of consensus as a process of 'truth creation' (Hulme and Mahony, 2010: 711) in which competing interpretations are marginalized. The IPCC's policy of consensus-building was adopted as a way to emphasize confidence for policy makers and increase public trust. However, van der Sluijs et al. (2010) argue that in concealing the diversity of opinion within the organisation, the IPCC hides the uncertainty inherent in the climate system as well as scientific uncertainty about the system. Thus the complexity of areas of contested scientific knowledge are reduced to a single 'least-contested' claim. Lahsen (2013a) argues that Climategate exposes the way in IPCC scientists strategized to present an idealized view of science as unified and objective. This idealized notion of science, she suggests, directly contributes to a public backlash against acceptance of anthropogenic climate change when the reality of scientific opinion on climate change is revealed to be less unanimous (Lahsen, 2013a, 2013b). By keeping debate and dissenting voices behind the

'firewall' of the consensus process, the IPCC has opened itself to criticism on at least three fronts: potentially slowing the progress of climate science; creating unrealistic public expectations about the certainty of scientific knowledge of the climate system; and suppressing information from the public debate (Pielke, 2001).

The IAC review (InterAcademy Council, 2010: xv) also criticized members of the IPCC for 'straying into advocacy' of specific climate change policies. The view that IPCC reports and rhetoric are not, as is claimed, 'policy neutral' is also expressed by Pielke (2010). Demeritt (2001b) argues that in presenting its task as "assessing and presenting available knowledge objectively" (Bolin, 1994: 27) the IPCC has disregarded the politics and social practice involved in scientific decision-making and their role in framing the problem. Prins et al. (2010) argue that the close link between climate science and policies to reduce carbon dioxide emissions has led to their association in many people's understanding of the problem – so if they disagree with the policies they automatically tend to disbelieve the science.

The conflation of science and policy in debates about climate change is evident in the association between popular opinion about climate science and political affiliation. A number of studies have demonstrated that right-leaning voters (and in some countries, right-wing political parties) are less likely than others to accept claims about human-induced climate change (Hart and Nisbet, 2011; Poortinga et al., 2011). This reflects pre-existing sources of ideologically motivated distrust. Thus, while conservatives tend to distrust environmental groups, socialists and 'big' government, left-leaning individuals often distrust global corporations, economic professionals and advocates of unfettered markets.

Trust, or lack of it, is now recognized by social scientists as a vital element in climate change communication (Lorenzoni et al., 2007). Despite this, the social and psychological bases of trust have not been closely examined in the context of climate research (for a notable exception see Goodwin and Dahlstrom, 2013). In the next section, we address this neglect, highlighting relevant findings from diverse literature on trust. In the remainder of the paper we apply this informed understanding of the elements of trust to the problems facing climate change research and communication.

3.3 Review and Analysis

3.3.1 How we trust

Trust is both an individual psychological state and a 'collective cognitive reality' (Lewis and Weigert, 1985: 970). Renn and Levine (1991) describe trust as a collective adaptation that enables individuals to limit the complexity of their lives by reducing the number of options that need to be considered in everyday life. When we decide to trust we forgo an act of choice, in the expectation that the trusted will act according to our expectations or interests (Castelfranchi and Falcone, 2010). There is no common or shared definition of trust in the neuropsychological or social sciences (Borum, 2010; Shapiro, 1987) Castaldo (2002) provided a content analysis of 72 definitions of trust across the literatures of management, marketing, psychology and sociology. Castelfranchi and Falcone (2010) use this study as the basis for their definition of trust as a 'layered notion' with several interrelated meanings. It is:

- an attitude involving belief in one's evaluation and expectation of the trusted;
- a decision based on that attitude;
- 'the act of relying' on expected behaviour;
- the social relationships that result from the act of trust.

Although commonly spoken about as a quality of interpersonal relationships, trust need not be directly between people or between an individual and groups of people. We trust, for example, in systems (such as the internet), symbols (such as money), institutions (such as science), objects (such as cars), ideas (such as democracy), and living things (such as domesticated animals) (Nooteboom, 2002). Trust is always embedded in the context of social practice and involves the interaction of living and non-living things – it is not reducible to an unmediated relationship between people (Riegelsberger, 2005). The presence of risk is also vital to trust. In trusting, we seek to reduce the risk of relying on the unknown. At the same time, however, we become vulnerable to the risk that the trusted will not act according to our expectations or interests.

3.3.2 Implicit and explicit trust

While some authors define trust narrowly as based in rational decision-making, or as the long-term consequence of such decisions (Hardin, 1998; Luhmann, 2000), trust can also be an implicit reliance, a general, automatic feeling or positive emotion about a person, object or system (McAllister, 1995). What we will call 'implicit trust' has its root in precedent, although

this precedent may be lodged within habituated social practices and norms, rather than in the direct experience of a trusting individual. For example, you might trust implicitly that a chair will hold your weight; that clean water will flow from the tap; that the bank will safely hold your savings; that laws will be adhered to. The ability to implicitly rely on the systems and technologies that support everyday life is vital to one's sense of security (Giddens, 1991). Without this sort of trust, everyday life becomes profoundly cumbersome, and terrifying. Luhmann (1979, 2000) preferred to describe what we take to be implicit trust as 'confidence', a state of expectation quite different to explicit, deliberative forms of trust. This distinction has been further explored by Seligman (1998) and Earle and Siegrist (2008). For these writers, confidence draws upon past experience of events, which creates an expectation and belief that future events will happen in a similar manner. Unlike confidence, trust, in their definition, allows the trusted an autonomy of action that does not rely on predictable expectations of their behaviour. While we do not dispute this distinction, we suggest there are good reasons for seeing confidence as an implicit form of trust that is joined seamlessly to explicit modes of trust. Like theorists such as Castelfranchi and Falcone (2010), we think that implicit conditions of trust shape explicit conditions of trust, and vice versa. An implicit tendency to 'surrender' to familiar, 'tried and tested' conditions is bound up with rational deliberation about how to best handle the risks of the unknown.

A personal example sheds light on the links between the implicit and explicit dimensions of trust. Until recently, two of authors of this paper never noticed their implicit trust in electric lamp switches. For the third, this trust was destroyed in early adulthood. A switch failed. An electric shock almost killed the lead author. Since that time, she has felt compelled to make explicit decisions of whether to trust each electric lamp switch she encounters. Her default, implicit response is to distrust lamp switches. Weighing up and rationalising previously implicit decisions to trust requires cognitive effort. We value trust, in part, for its capacity to reduce the amount of complexity and effort in decision-making in our lives. Unless the trust-destroying experience is as extreme as this example, most of us would rather block out experience or arguments that potentially undermine our implicit trust in the countless mundane elements of everyday life. The experience of hearing this tale, for example, has not caused the other two authors to question their own implicit trust in lamp switches, although they are now at least partially aware that they hold such trust.

The concept of distinct but interacting modes of implicit and explicit trust is supported by research from the fields of psychology, sociology and economics suggesting the existence of

'dual systems' of cognition. Under the dual systems theory, trust can be part of either a rational, conscious and evaluative explicit cognitive process, or an emotional, intuitive and implicit one. These have been referred to as System 1 and System 2 by Kahneman (2002, 2003), and as implicit/explicit, affective/rational, experiential/cognitive, intuitive/calculative by many authors (Lewis and Weigert, 1985; Loewenstein et al., 2001; Panksepp, 2003; Slovic et al., 2007).

Recent neuroscientific research also supports the dual systems theory of cognition (Evans and Stanovich, 2013). Researchers have found that the functioning of trust responses in the brain are closely linked to the action of the neuropeptide oxytocin (Kosfeld et al., 2005). Neuropeptides are small, protein-like molecules that convey signals between neurons. Oxytocin receptors are found in high numbers in the brain's limbic system, which includes the amygdala, basal ganglia, hippocampus and hypothalamus (Riedl and Javor, 2012). This area in the centre of the brain is associated with automatic systems and emotions. Oxytocin in the limbic system inhibits automatic fear responses, enhancing our ability to trust on an implicit and emotional level (Rilling et al., 2008). In a separate, but interlinking process, oxytocin receptors in the frontal cortex of the brain also affect awareness of our own and others' cognitive processes and capacity for deliberative thinking, which forms the more explicit and calculative element of trust (Riedl and Javor, 2012). Thus, trust can be seen to have both an automatic, affective basis in the limbic system, and a self-conscious, deliberative basis in the frontal cortex (Braynov, 2013). These two biophysical dimensions of trust do not function independently, but show a high degree of connectivity and mutuality (Forbes and Grafman, 2013).

3.3.3 Trust and group identity

As surveyors of public opinion have found over decades, social identity is a good predictor of personal belief, particularly on controversial issues. Anthropological research grounded in Douglas and Wildavsky's (1982) cultural theory of risk shows that social structures reinforce themselves through the 'collectively constructed censor' (Douglas, 1990: 11) of cultural bias. Trust between individuals, groups and social institutions is determined by the alignment of cultural worldviews. In the context of climate change, Kahan et al. (2011) found that culturally determined values affected people's perceptions of the existence of scientific consensus. Lahsen (2007) (see also Shackley and Wynne, 1996) found that socio-cultural dynamics shape decision-makers' implicit and explicit trust in climate science. That culture is a lens through which we perceive and make sense of the world is echoed in the literature on social

psychology: 'group-centric opinion', according to Nelson and Kinder (1996), is the result of problem framing that links issues and policies with perspectives condoned by particular groups. Once an issue has been framed as being understood in a particular way by a particular group, the members of that group are likely to employ 'motivated reasoning' (Kunda, 1990) that enables them to interpret any information on that topic as confirming strongly-held views of the group. Thus the framing of climate change as 'alarmist' within a right-wing context predisposes people in this group to assume that scientific claims on this topic tend to be exaggerated and distorted by ideological interests.

Motivated reasoning functions to bond group members through mutual trust and shared beliefs. Such in-group feedbacks between belief and trust reflect Brewer's (1999) understanding of trust as an evolutionary adaptation to group living. She argues that humans have evolved to rely on cooperation and interdependence within groups, rather than on physical strength, and that our survival has rested on the capacity to trust one another. Brewer also points out that indiscriminate trust may be dangerous for the individual, who must be able to rely on the likelihood that others share their outlook and their interests. The formation of in-groups with clear social boundaries, stable norms and shared interests thus enables mutual trust and obligation. This benefits all members of the group through normalized interdependence while imposing group sanction on acts of non-reciprocation.

In studies of trust from diverse disciplines, interdependence and reciprocity among individuals and groups repeatedly emerge as fundamental ingredients for building trust (Ostrom and Walker, 2005). Trust cannot exist where the trustor has no power to decide whether to trust, and is undermined if trustors are not trusted in return (Peel, 1998). Trust both flows from and enables "the transition from passive and powerless 'dependence' to active and empowering interdependence relationships"(Castelfranchi and Falcone, 2010: 266). One marker of reciprocity is a tendency to imitate the actions of others and reflect the emotions expressed around us, particularly within social groups (Frith and Frith, 2012). Such social conformity, or 'behaviour contagion' (Bargh et al., 2012), is thought to enable learning and development of social and group identity. Much social conformity is automatic and preconscious and therefore underestimated in psychometric studies. For example, Nolan et al. (2008) analysed the perceived effectiveness of messages encouraging people to save energy. Participants rated social norms – in this case the fact that other people in the community were reducing their energy use – as the least motivating message. However, behavioural studies with the same participants found that contrary to their conscious beliefs, social norms were

by far the most effective motivators to reducing their energy use, outweighing environmental protection and benefits to society.

The effectiveness of social norms in motivating behaviour and belief relies on group association, which is also evident in recent neuropsychological research. For example, Hein et al. (2010) used functional magnetic resonance imaging to examine human neural reactions to witnessing pain in both an in-group and an out-group member. They found that witnessing pain in an in-group member (of the same soccer team) led to activation of the left anterior insula – an area of the brain associated with empathy. Activation of this area also correlated with the participants offering to help the suffering person, by volunteering to accept pain in their place. Witnessing pain in a previously unknown member of a rival team led to significantly less activation of the left anterior insula, and instead to activation of the nucleus accumbens – an area of the brain associated with reward processing and enjoyment of suffering in others. Activation of this area correlated with less willingness to help the person in pain. Additionally, where more information was provided about the member of the rival group in the experiment, this affected the level of empathy or indifference to their suffering. While group membership is an important factor in determining predisposition to empathize and to trust others, it does not preclude us from trusting those outside our in-group (Brewer, 1999).

3.3.4 Social networks of trust

Trust relations are self-perpetuating. This is perhaps most obvious in the context of interpersonal relations: when we are trusted, positive feeling prevails. As a result we are more inclined to trust, and those we trust are more inclined to be trustworthy. Similar positive feedbacks pertain to distrust. When we distrust, negative feeling takes over, and others are more likely to be suspicious of our motives or betray us (Lewis and Weigert, 1985). However, trust relations are not simply established between individuals with direct experience of each other. Because trust is inherently linked to processes of group formation, trust and distrust flow through complex social networks. In this sense, trust is the 'social glue' that holds the web of society together (Cook, 2005). Putnam (1995) sees trust as a form of social capital in itself, while Cook (2005) describes trust networks as providing access to social capital. Schyns and Koop (2009) find evidence that greater interpersonal trust leads to greater trust in government, and that distrust in government can flow through to decrease interpersonal trust. Putnam (1996) sees social trust as flowing from civic engagement, while Job (2005) finds that

interpersonal trust, at the level of personal social interaction, creates social trust, which in turn affects civic engagement and trust in government.

Fukuyama (1999, 2001) argues that the increasing desirability of personal autonomy in contemporary, late-modern societies has led to a reduced radius of interpersonal trust. He sees declining trust in institutions and between individuals, as evident in surveys of American attitudes since the 1950s, as a symptom of the global rise of individualism. Yet paradoxically, Fukuyama argues, membership of social groups is growing in these societies, facilitated in part by the Internet. While people may join more groups, he suggests they increasingly avoid larger, more formal organisations such as major political parties or churches, whose political or moral authority might constrain their freedom of choice and sense of personal agency. Instead they put their trust in smaller, more specific and often less formal interest groups such as book groups, environmental groups, charities or special interest political parties (Fukuyama, 1999).

While the radius of our interpersonal networks of trust may have contracted, it could be argued that membership of multiple smaller networks strengthens the overall network of trust. As these many small networks by necessity overlap, the links between them enable the spread of new ideas and information; this is what Granovetter (1983) calls 'the strength of weak ties'. In their study of the role of trust in knowledge transfer, Levin and Cross (2004) examined 'trusted weak ties' – acquaintances on the edge of one's social group for whom one has either (or both) implicit or explicit trust. They found that this type of acquaintance provides more useful knowledge than can be gained from any other relationship.

3.3.5 Trust in the system

The explanation of networks of trust above is focused primarily on interpersonal interactions between individuals. While important, this focus can obscure ways in which trust relationships are mediated by a wide range of organisational, technological, environmental, ideological and symbolic means. Indeed, as advocates of actor network theory (Latour, 1987, 2005; Law and Hassard, 1999) argue, conventional conceptions of agency and social networks based solely on human action, intention and interaction provide a highly flawed explanation of late modern society. In response, a growing number of researchers have documented the entangling of human and non-human agencies within heterogeneous networks that are founded on socio-technical and socio-ecological systems as much, if not more, than on interpersonal interactions (Callon, 1986; Callon and Law, 1997).

This systems-based understanding of social networks is particularly relevant to questions of trust. Luhmann (2000) argues that in traditional, pre-modern societies, because one's place was defined by birth and one's connections were essentially fixed, trust was built and expressed primarily through direct personal relationships. These personal relationships were centred on face-to-face interaction, as well as stable codes and hierarchies founded on birth, heritage, religion, gender and class. In contemporary late-modern societies the predominant norms are innovation, mobility, individual freedom and flux (Bauman, 2000; Latour, 1993; Urry, 2000). Trust relationships are now mediated by forms of social interaction involving complex institutional and structural arrangements, multi-scalar technological and economic processes and rapid political and cultural change. In everything from global commodity chains to electronic forms of communication, the conditions in which trust is developed have become increasingly systemic. What Luhmann calls 'confidence in the system' is similar to what we have referred to above as the implicit trust lodged within the social practices and norms that constitute everyday life. Experience (rather than cognitive deliberation) enables implicit trust in socio-technical systems and is an important element of the networks of trust described above. Through such trust the function of broadscale social institutions and practices is maintained.

Implicit trust in socio-technical systems is vital to social cohesion and stability: if dissent and distrust spread to enough people, these systems are liable to break down, or at least to become the focus of conflict and, potentially, revolution. Luhmann (2000) argues that trust in systems is a necessary precondition for risk-taking and innovation. In his view, societies without adequate trust in socio-technical systems stagnate as people attempt to shore up their personal security, but refuse to participate in potentially risky change. Where trust in systems becomes weakened, a 'spiral of distrust' (Lewis and Weigert, 1985: 979) can lead to an increasingly riven, brittle and fragmented society where implicitly trusted systems are doubted and then abandoned. As Lewis and Weigart (1985: 980) put it:

> Collapse occurs in contemporary industrial and commercial societies not when nature fails to send rain or locusts ravage crops, but when society fails to support trust and sends citizens running on the banks.

To recapitulate: a point of intersection between research in social psychology and neuroscience suggests that trust is the product of two distinct processes – rational, evaluative trust that requires cognitive effort, and implicit, affective trust that evokes confidence, reliance

and feelings of security. Trust is vital to group identity and cohesion; it both requires and enables interdependence and reciprocity. Our concept of trust networks is both systemic and interpersonal – we argue that implicit, affective trust in elements of everyday life forms the foundation of trust in people, organisations, technologies, and, most importantly, in the systems that underpin societal function. In the discussion that follows, we apply these conceptions of trust to the case of climate change research and communication. We argue that scientific claims about climate change undermine implicit trust in systems on which many of us have come to depend. If this argument has merit, it suggests a need for substantial re-evaluation of public trust and distrust in climate change research.

3.4 Discussion

3.4.1 The value of implicit trust in everyday life

To accept that humans are causing climate change through emitting greenhouse gases from fossil fuels is profoundly troubling. It requires those of us in carbon-intensive societies to question our implicit trust in systems that underpin every aspect of our way of life. These systems include dominant socio-technical and economic practices and associated narratives of progress (Latour, 1993). Since the long, post-war economic boom and proliferation of consumer goods, everyday life in these societies has been characterized by greater levels of safety, ease, and comfort. Improvements in medicine, nutrition and hygiene sustain longer average lifetimes (United Nations, 2004). Living standards measured in terms of consumption of technological aids such as air conditioners, computers and cars have grown remarkably, with even the poorest households in developed countries now having access to these goods (Rector and Sheffield, 2011). In no small part, contemporary ways of living have been forged through the exploitation of abundant and relatively inexpensive stores of fossil fuels (Urry, 2011).

Messages about climate change challenge implicit trust in societies' most deeply established economic and socio-technical systems, and the everyday practices they entail. This implicit trust is valuable to us in several ways: it gives us confidence in our way of life; it reduces the cognitive load of decision-making about details of our social practice; it enables group identity and bonding; it helps the systems we rely on to function smoothly. Clarifying these substantial benefits of implicit trust allows us to reconsider the social and psychological impact of climate research, and to address the problem of trust in a new context.

3.4.2 The psychological and social foundations of denial

Narratives of anthropogenic climate change threaten implicit trust in some of the foundations of late-modern society, including consumerism, individual freedom, capitalism and liberal democracy. This has led to diverging attitudes between groups with different political ideologies. Hart and Nisbet (2011) found that climate change has become a political 'identity marker' in common with abortion and gun-control in the US. Several studies have shown that right-wing and left-wing voters interpret information about climate change differently, based on their prior views (Kahan et al., 2013; Kahan, Peters, et al., 2011). Better education and more information does not lead to increased understanding and acceptance of climate change messages in a right-wing audience, but the converse: the more highly educated and informed about climate change right-wing participants are, the less likely they are to accept the messages of climate science (Kahan et al., 2013; Malka et al., 2009).

While such studies suggest strong differences in the ways different political constituencies think about climate change, Rowson (2013) finds evidence for widespread 'stealth denial' across the political spectrum. He describes this as the condition of rationally accepting the reality of anthropogenic climate change and the moral imperative to act, but living as if this reality did not exist, by disavowing the obligations and consequences that such acceptance entails. Indeed, it is evident that some people accept that climate change will bring about an inevitable calamity, even an end to humanity, while regarding their own personal life-chances with enthusiasm (Denniss and Davison, 2015). Rowson (2013: 36) suggests that such psychological defence mechanisms are an essential part of being human:

> The very notion of denial, in which we somehow simultaneously know something and yet choose not to face up to that knowledge – is perplexing when the working assumption is that human beings are unitary, rational and self-consistent. However, denial begins to look normal, even adaptive, when you realize that our sense of self is constructed from a coalition of fragments, that most of what we do is unconscious, [and] that we are motivated to keep feeling good about ourselves.

The concept of stealth denial suggests that implicit trust is vital to what Giddens (1991) refers to as feelings of 'ontological security'. According to Giddens, the practices, routines and objects that form everyday life hold back a tide of preconscious existential anxiety. Implicit trust in these conventions of life provides a psychological support, and in doing so inhibits radical social change. At a societal level, implicit trust in socio-technical systems creates

inertia for those systems through collective reluctance to challenge the foundations of everyday life. Ethnographic work by Norgaard (2011) shows that through shaping the norms of conversation and practice, communities are complicit in the social organisation of climate change denial.

To belong to a society is to trust in forms of knowledge that do not have their basis in our direct, sensory field of experience. Social understanding transcends individual experience and generates shared vision and shared purpose. Such trust is not first and foremost a matter of knowledge. The lived experience of climate is held in forms of habitual action and the technological artefacts associated with them: in the seasonality of harvests, the design of buildings, and one's choice of clothing, for example. In this sense, climate is perceived directly through the embedding of knowledge about climate in ways of living. The congruence of abstract explanation about the world and concrete experience in everyday life enables people to trust in information mediated by social institutions (Davison, 2001). Conversely, where people's lived experience is counter to the explanations they receive, these conflicting forms of knowledge create dissonance and insecurity.

3.4.3 Re-aligning networks of trust

While many societies are politically divided on questions of climate change, this issue does not exist discretely. Problems of climate change are diverse and interconnect in a variety of ways with many other issues (Hulme, 2009). In the same way, the myriad trust networks within a society interlink through people and practices to form a complex polyvalent network through which trust flows. A clearer understanding of the nature of trust networks could help climate research organisations to re-connect with disaffected publics. These connections may provide pathways to renew dialogue between groups with different political agendas. They may also provide ways of identifying where politically polarized groups have at least partially overlapping forms of implicit trust in existing socio-technical systems. Areas where these mutual connections are already being explored include economics, security and public health (Corner, 2013a; Nisbet, 2009).

The rapid nature of change in contemporary carbon-intensive societies is also a cause for hope. An implication of trust networks in these societies is that they are more flexible and responsive than in the past, and can adapt to evolving practices, technologies, norms and sources of knowledge. To take advantage of these properties of trust networks, late-modern institutions must also be flexible, connected and adaptive. The monolithic structure of climate

research embodied in the IPCC is more reminiscent of traditional power structures such as the church or major political parties than the smaller, inclusive and adaptive structures that thrive in socially innovative spaces in twenty-first century modernity (Scott-Cato and Hillier, 2010). Designing the IPCC as a pre-eminent umbrella organisation to generate consensus among climate scientists and their institutions has focused on scientific unity as the keystone of social credibility of climate research. This focus has also underpinned the decision to couple climate science, in the form of the IPCC, to climate policy, in the form of the United Nations Framework Convention on Climate Change (UNFCCC) (Prins et al., 2010). Both of these decisions, taken in the late 1980s, have arguably contributed to the crisis of trust that now surrounds climate science.

As Climategate and the subsequent breakdown of public trust in the IPCC demonstrates, a single event was able to generate distrust in climate science in its entirety, rather than remaining contained to one organisation, to a specific group of scientists or to a discrete issue of fact. The misleading representation of climate scientists as fitting into two homogenous and opposing groups of consensus or dissent contributed to the fragility of trust in the institution (Lahsen, 2013b). Structuring climate research institutions in more internally diverse, even agonistic networks, rather than as parts of a consensus group, may ensure that widespread loss of trust is less likely in the future. Additionally, the logical connection established between scientific consensus and policy consensus has led many who distrust the policy framework represented by the UNFCCC to project this distrust on to scientific knowledge. This framework's focus on coordinated multilateral action by nation states to limit atmospheric carbon concentrations is only one of many ways of framing the policy challenge of climate change (Prins et al., 2010).

Accepting the challenge of anthropogenic climate change may not require complete consensus about its causes or the best ways to manage it. Different pathways that reflect differing understandings of the problem could converge in a process of deriving what Rayner (2012) calls 'clumsy solutions'. Clumsy solutions are awkward viewed from any single perspective, and when compared to the precise solutions characteristic of narrow, discrete forms of expertise. However, clumsy solutions are often the most robust in the messy conditions created by 'wicked problems' (Rittel and Webber, 1973). They are founded on diverse perspectives whose interaction ensures a level of adaptability and negotiation in the midst of unfolding conditions. In the case of climate change, clumsy solutions might involve

working with networks of implicit trust to illuminate the shared background against which polarized debates are currently enacted.

3.5 Conclusion

We draw three complementary conclusions from our review and analysis of literature on trust in the context of climate research. First, that the matrix of carbon-intensive practices in late-modern societies has afforded an experience of existential security. Scientific projections of impending catastrophe challenge the implicit trust in systems that have led to sustained prosperity and accumulation across the developed world. It is not surprising that this challenge is met with distrust, as it asks individuals, communities and societies to grapple with a substantial cognitive burden of re-orientation. In short, it prompts many to implicitly, if ironically, rely evermore heavily on the people, systems and things that make them feel safe. The core argument that climate research undermines implicit trust in existing systems implies that the challenge for climate change communication is not to engender trust in the scientific consensus. Rather, climate policy and research should be re-aligned with existing trust networks, and where necessary, networks should be reconstructed to adapt to a new and changing world. Second, climate researchers may find that cultivating interdependent, dialogical relationships with the publics they seek to engage helps to restore trust. This includes recognition that there is not a single undifferentiated, 'general' public, but rather a pre-existing diversity of different publics bound together by reciprocal trust relations that shape the way in which they engage with climate science. There is therefore no single strategy of climate change communication that will build trust across this diversity of publics. Our third conclusion, however, suggests that climate researchers pay more attention to the diversity of publics (and their trust networks) that exist within larger networks of implicit trust in socio-technical systems and everyday practice. Such diversity is underpinned by forms of interconnection and interdependence. Groups with very different responses to climate science share sources of lived trust in social practices, institutions and narratives that give late-modern societies their underlying coherence. Currently, climate science messages provide a blunt challenge to this underlying base of trust in late-modern societies. This will continue to provoke a defensive reliance on existing everyday practices of risk management (such as private wealth creation and associated consumer choices) that perpetuate carbon-intensive systems. Trust in new systems that do not exacerbate climate change will require more collaborative forms of construction with diverse publics, rather than ongoing challenge to existing systems through scientific problem definition.

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Commentary

Part II of the thesis examines the values underlying polarization about climate change in Hobart, Tasmania. It is based on the primarily quantitative analysis of the Hobart Values Survey. It contains two chapters. **Chapter Four, Concepts and methods** begins by defining 'concern' and 'unconcern' about climate change, two central concepts in this section. It goes on to describe how the Hobart Values Survey was undertaken, describing sampling techniques, question development, and methods of analysis that are not described in detail in the following chapters.

Chapter Five, Concerning values: What underlies public polarization about climate change? is a paper published in *Geographical Research*. I am the sole author.

Further quantitative analysis of the Hobart Values Survey was undertaken in a paper by Lucas and Warman (2018) that can be found in Appendix I.

Chapter Four | Concepts and Methods

4.1 Why use quantitative methods?

Quantitative analysis of survey data is a useful method for discovering broad patterns of attitudes and behaviour at a large scale. It is one of the most widely used methods for understanding attitudes to climate change, and there are therefore a number of existing sources of data with which to draw comparison. Among these are national Australian surveys (Ashworth et al., 2011; Leviston et al., 2015; Reser et al., 2011), as well as surveys from the UK (Spence et al., 2010) and US (Leiserowitz et al., 2014). Additionally, many studies of human values using the Schwartz (1992) theory of human values have been conducted across the world, so this instrument is well-tested. My aim for the quantitative inquiry was to investigate patterns of values and attitudes associated with unconcern about climate change at a broad scale. These patterns could then be further interrogated using both theory and qualitative inquiry. This chapter describes the concepts and methods used in the quantitative inquiry, and complements the methods sections of the two journal papers that form Chapter Five and Appendix I.

4.2 Defining concern and unconcern

Existing research on social attitudes to climate change (Capstick et al., 2015; Leiserowitz, 2007; Lorenzoni and Pidgeon, 2006; Reser et al., 2012) uses four constructs to represent public attitudes to climate change:

- Belief: which includes belief in the reality of a warming climate, and belief in the human-induced causality of climate change. The former relates to lived experience, as well as social discourse, while the latter involves trust in climate science and communication about climate change (Hobson and Niemeyer, 2011).
- Knowledge: which pertains to public understanding of science, in terms of being able to describe the physical mechanisms associated with global warming, and their effects on the climate and ecosystems (Roser-Renouf and Nisbet, 2008).
- Risk perception: which involves both an explicit judgement about the level of risk posed by climate change, and an affective response to the risk (van der Linden, 2017).
- Concern: which is a measure of how seriously one takes the risk posed by climate change, in the context of other issues of importance. It implies a composite of reasoning and affect. Questions that are asked about climate change concern in the

literature focus on how important people believe the problem to be, often in relation to other problems, and how worried they are about it (Reser et al., 2012).

Concern is a complex idea. The word has a Latin etymology, from 'con-' (expressing intensive force) and 'cernere', meaning to sift, or discern (*Oxford English Dictionary*, 2018). It implies a cognitive and affective appraisal of the relevance, or importance of an issue, and responsibility, interest or involvement in it. In this way, concern about climate change wraps together beliefs, knowledge and risk perceptions in an evaluation of the risk of climate change within a lived social context. These properties of the concept of concern make it well suited to a study that aims to investigate both social and psychological factors underlying differences in attitudes. Unconcern, an antonym of concern, is used in general conversation to describe a lack of worry, or a refusal to accept the importance of an issue. In this thesis, it is used to describe the attitude of those people who report little or no concern about climate change, but also retains the sense of involving contextual evaluation of relevance, importance, responsibility, interest and involvement in the issue at hand. This is important, as I do not wish to suggest that something is missing from people who are unconcerned about climate change, nor do I want to suggest this unconcern be explained solely as the absence of concern. Rather, by interpreting unconcern as a substantive issue, as a manifestation of concerns that lie elsewhere, I seek to unravel the active interests and experiential processes that inform it.

4.3 Human values

Studies of human values examine the subjective beliefs and normative principles that contribute to people's priorities and decisions about how they wish to live. Over the course of their life, every individual comes to hold frames of reference for evaluating information (by which I mean not only descriptive claims but cultural narratives, practices, norms, feelings etc.), in the form of culturally-situated values. These values are becoming a central focus in climate change risk research (Corner et al., 2014). Typologies of human values have their foundations in Mary Douglas' cultural theory (Douglas and Wildavsky, 1982), together with empirical psychological studies by Milton Rokeach (1973). Several theorists have proposed pluralist models of human values, which introduce different typologies of individuals' possible psychological orientations (Dunlap and Van Liere, 1978; Kahan, Peters, et al., 2011; Rokeach, 1973; Schwartz, 1992). One of the most widely used and rigorously tested tools for categorizing human values is the Schwartz value framework, which maps a spectrum of ten

'universal' values which are represented at different levels in each of us (Schwartz, 1994). Schwartz (1994: 20) defines a value as:

> (1) belief (2) pertaining to desirable end states or modes of conduct, that (3) transcends specific situations, (4) guides selection or evaluation of behavior, people, and events, and (5) is ordered by importance relative to other values to form a system of value priorities… These are the formal features that distinguish values from such related concepts as needs and attitudes. They make it possible to conclude that security and independence are values, whereas thirst and a preference for blue ties are not.

Values inform our attitudes and our needs, but are less transient than needs and attitudes. However, while they are often described as stable expressions of individual personality, values can change: they shape but are also shaped by our lived experience (Blackmore et al., 2013; Hards, 2011). The more a particular value is brought to the fore of one's thinking, the more important it becomes in influencing an individual's judgement and decision-making (Hüther, 2013). I use Schwartz' theory, and his Portrait Values Questionnaire (Schwartz, 2003) in the Hobart Values Survey and in the quantitative inquiry based on it. Chapter Five engages with existing research on values associated with climate change attitudes, and reports on statistical analysis of the values underlying concern and unconcern about climate change in the Hobart Values Survey. In Appendix I, Lucas and Warman (2018) reprises this analysis using different groupings of the data to examine polarization on climate change, investigating whether having very high, or very low concern involves different patterns of values. This is related to an additional analysis of the patterns of values involved in polarization on the issue of forestry, which has historically been an issue of environmental controversy in Tasmania and an important precedent for political debate about climate change in Tasmania.

4.4 Hobart Values Survey

The quantitative inquiry described in this thesis is based on a public survey of Hobart residents that took place in May-June 2015. The aims of the Hobart Values Survey were threefold:

- To gather data on factors associated with concern/unconcern about climate change from a large public sample.
- To investigate the relationship between concern/unconcern about climate change and human values.

- To enable the recruitment of a sub-sample of interviewees who were unconcerned about climate change, without initially discussing their attitudes to climate change.

4.5 Survey presentation and sampling

To achieve the aims listed in 4.3, the survey was designed to focus on a broad range of questions about the values and priorities of Hobart residents, both in a local and a global context. This was partly to avoid triggering biases by focussing specifically on climate change, partly to explore relationships between attitudes to climate change and other issues of concern, and partly so that potential interviewees would not think that climate change was the focus for the study (see Chapter Six, and Chapter Nine for a full explanation). Initially I hoped to be able to carry out a randomized telephone survey in order to generate a representative sample of the population of Greater Hobart. However, funding for this was not obtained, and I redesigned the sampling method to enable as good a representation of the demographics of the Hobart population as possible.

In order to reach the greatest possible diversity of participants, the survey was administered using mixed modes of delivery: a web-based survey, face-to-face completion of a paper survey, and paper surveys distributed through third party organisations that were completed in the participant's own time and returned in pre-addressed, pre-paid envelopes. I advertised the survey through interviews on Australian Broadcasting Corporation (ABC) local radio, in local newsletters, on Facebook and Twitter, and through community groups such as Rotary clubs (part of an international voluntary humanitarian organisation). After the first 200 surveys were returned, it became clear that women and people with university degrees were over-represented. I therefore focussed face-to-face sampling on venues where I might find greater proportions of older people, men, and less educated people.

While this was not a representative sample, non-probability samples can be 'fit for purpose' if the aim is to examine the interaction of personal characteristics within individual respondents and their effect on specific opinions or behaviours, rather than external relations within the sample (Baker et al 2013). Nevertheless, as attempts were made to ensure coverage of different ages, genders and levels of education, it is useful to compare the sample to the population, as represented in the most recent census (Australian Bureau of Statistics, 2011), in order to examine any gaps or limitations. A greater number of women (63%) than men (37%) responded to the survey. Age demographics of the Greater Hobart population are well represented. Possibly because of self-selection by respondents to the web-based survey, the

sample also contained a substantially greater proportion of people with tertiary educational qualifications (67%) than is present in the population (23%). A detailed cross-tabulation of the sample is presented below (table 4.1). In order to ensure that over- and under-representation of certain sectors of the population did not skew results, the sample was statistically weighted using RIM weighting procedures (Peck 2011) to match population statistics for age, gender and education as present in the 2011 census (see 5.3.2). In my data, this produced some high weightings, especially for older, less educated men, who were poorly represented in the sample. The largest weighting (7.3) in my sample applied to ten such participants. To avoid making statistical conclusions from numerically large weighted variables from small numbers of respondents, while maintaining the intent of the weighting, SPSS uses a calculation called 'effective base' to remove the influence of such variables. The effective base is calculated using the following formula: effective base = (sum of weight factors) squared / sum of the squared weight factors (IBM, 2011; Potthoff et al., 1992). Effective base was applied in all of the statistical tests performed.

Table 4.1 Sample cross-tabulation by gender, age and education (unweighted numbers of participants)

			School leaver	TAFE/vocational	University	Total
18-29		Female	17	9	34	60
		Male	12	4	12	28
	Total		29	13	46	88
30-49		Female	9	25	115	149
		Male	9	11	59	79
	Total		18	36	174	228
50-64		Female	9	13	57	79
		Male	6	10	32	48
	Total		15	23	89	127
65 or older		Female	10	8	23	41
		Male	10	7	21	38
	Total		20	15	44	79
Total		Female	45	55	229	329
		Male	37	32	124	193
	Total		82	87	353	522

4.5.1 Questions and analysis

The survey questionnaire was designed to gather information showing how concern/unconcern about climate change is associated with other attitudes, practices and values. It included questions based on theory and research literature that addressed the following themes:

- Demographic factors (gender, age, education) – as controls for representation of population.
- News media use (what type and how often) – in order to see whether media ownership might affect attitudes (Carmichael et al., 2017; Farstad, 2016; Hmielowski et al., 2013)
- Self-efficacy (how much influence one feels one has) - this is a measure of an individual's perceived agency, or capability to act (Bandura, 1995, 2006).
- Trust in government (how much, for each scale of government) – examining whether people feel that government represents their values and priorities (Blackburn, 1998; Job, 2005; Tjernström and Tietenberg, 2008), see also Chapter Three.
- Attitudes to climate change (how concerned/unconcerned) – discussed in detail above, and in Chapter Five.
- Attitudes toward local industries (which are important/unimportant) – to situate the study in the Tasmanian context (Crowley, 2008; Gale, 2013; Hay, 1994).
- Attitudes to other social issues (safety, crime, welfare, refugees) – to situate attitudes to climate change in the context of other social attitudes (Hochschild, 2016; McCright, Marquart-Pyatt, et al., 2016).
- Human values (which are most important) – discussed above, and in Chapter Five.

See Appendix II for a copy of the survey.

An initial exploratory analysis of the data showed that of all the themes examined, human values had the strongest relationship with climate change concern and unconcern, as evident in highly significant correlations. This confirmed the suitability of the data for detailed analysis of the relationship between concern/unconcern and human values, which was my initial aim. To avoid multicollinearity and over-specification, and Type I error (Studenmund, 2005), I chose a limited number of variables based on my understanding of human values theory. As described in Chapter Five, I limited my choice to variables examining climate

change concern, human values and demographics (see 5.3). I used IBM SPSS Statistics software to conduct analyses. Because my questions were mainly qualitative, involving Likert-scale responses, my methods of analysis were non-parametric (Pallant, 2013). Further details of the methods of statistical analysis used in this study can be found in Chapter Five and Appendix I.

More questions were asked in the survey than I have had the capacity to analyse in detail during the course of the PhD. In particular, analysis of questions on media use, self-efficacy, trust in government, and attitudes to other social issues, have not been undertaken in this thesis. These may be addressed in future publications.

Chapter Five | Concerning Values: What Underlies Public Polarization About Climate Change?

Published as: Lucas CH (2018) Concerning values: What underlies public polarization about climate change? *Geographical Research* 56:3 298-310.

Abstract

Climate change is a partisan issue, with increasingly politically polarized responses, particularly in Anglophone countries. While politics clearly have a role in determining attitudes to climate science and policy, understanding the human values that underlie attitudes offers advantages over a focus on political differences. This study focuses on public concern about climate change in Hobart, the state capital of Tasmania, Australia. Hobart is a microcosm of polarization over environmental issues due to its long history of conflict over natural resource use. Using a survey of 522 citizens of Hobart, the research examines the values underlying concern and unconcern about climate change. Applying an innovative analysis of human values to this area of research, I have found that, in the Tasmanian context, the unconcerned may be categorized into two groups with opposing values: people who prioritize national security, social order, and tradition; and people who value freedom of choice and the ability to make their own decisions. High levels of climate change concern are associated strongly with care for nature, suggesting that climate change is seen primarily as a threat to the environment, rather than to humanity. In this article, I argue that understanding the values underlying divergent interpretations of the threat of climate change is essential to resolving deadlock in political discourse. The work draws lessons for re-engaging the unconcerned in inclusive conversations about climate change through narratives addressing a broader range of values.

Key words: human values; climate change; polarization; public attitudes; survey; Tasmania

5.1 Introduction

There is a well-publicized scientific consensus on climate change (Cook et al., 2016). This agreement has not translated to the public sphere, where the issue is subject to widespread, often politicized, dissent (Hulme, 2009, 2015). Differences in levels of concern about climate change between left and right-wing political parties and their constituencies are well-documented. Support for right-wing parties and ideologies has been connected with

unconcern about climate change and lack of support for climate policy in the United States (Dunlap and McCright, 2008; McCright and Dunlap, 2011b), Australia (Tranter, 2011), the United Kingdom (Poortinga et al., 2011), and in cross-national studies (McCright, Dunlap, et al., 2016; Tranter and Booth, 2015). There has been an apparent increase in political polarization about climate change, particularly in Anglophone countries, since 2009 (Capstick et al., 2015; Painter, 2011). In this paper I examine whether differences in the prioritisation of particular human values might be in part responsible for the polarized responses of different sections of society to existing forms of communication about climate change.

Polarization about climate change is not only political, but has spatial and cultural dimensions. Publics with shared values and attitudes are clustered in particular places, for varying economic, cultural, and political reasons (Howe et al., 2015). These uneven geographies are important for understanding how divergent attitudes to climate change shift in range and influence. In an article on the relationship between geography and global change science in this journal, Noel Castree (2015) urges human-environment geographers to broaden the conceptual framework through which deliberations about Earth's future are made. He challenges researchers involved in the policy framing of climate change not to exclude inherently spatial questions of uneven power relationships, human values, and social dissent. In this paper, I show how a human values methodology can shed light on these questions. I present a situated study of the human values associated with concern and unconcern about climate change in Hobart, Australia. In doing so, I challenge psychological studies of human values that de-contextualize values by abstracting them from geographies of lived experience.

People have diverse and complex motivations for their opinions, which cannot be reduced to political affiliation alone. A growing number of investigations into the psychology of attitudes to climate change focus on the role of human values (see Corner *et al.* 2014 for a review). Human values theories propose that values are universal constructs across cultures (e.g. Schwartz, 1992). However, the ways in which people's values become part of their lived experiences are contextual. Diverse experiences lead people to connect values to issues differently (Adger, 2016). The benefit of universal models of human values is that they theorize internal relationships between values that apply across diverse cultures. In this way, they can generate insight in a variety of environments. Interpreting human values requires

attention to the different ways in which they connect to the history, politics and environment of place (Mahony and Hulme, 2016).

Human values are expressions of commitments to certain principles that guide decision-making, and have been found to be consistent motivators of attitudes to public issues (Haidt, 2007; Hart and Nisbet, 2011; Kunda, 1990). Values are also a strong indicator of likely behaviours (Maio, 2011), including voting behaviours (Barnea and Schwartz, 1998; Caprara et al., 2006). Asking people about their values offers benefits over asking about their political choices and policy preferences, in that the question helps to avoid priming for political bias in the context of polarized public debate, and gets to more specific and basic motivations. This approach also avoids excluding the growing number of people who are disaffected with politics or who do not feel that any political party represents them (Pharr et al., 2000). Examining the relationship between values and attitudes can help to explain differences and similarities in the way social groups interpret public issues. This study investigates the relationship between human values and attitudes toward climate change, using a survey of 522 residents of Hobart, Australia. In particular, it examines the specific values underlying expressions of concern and unconcern about global warming.

5.2 Background

Hulme (2008) argues that climate change must be seen as a situated phenomenon grounded in lived experience, rather than being abstracted through forms of expert knowledge. People's concern or unconcern about climate change is the product of both cognitive and affective evaluations of the risks and responsibilities of climate change within lived social contexts. This study is geographically situated in Hobart, the capital city of Tasmania, Australia. The island of Tasmania has been described as a birthplace of green politics (Hay, 1994), and as a 'crucible of environmental conflict' (Crowley, 2008) since the environmentalist blockade of the proposed Franklin Dam in 1982, and, as such, presents an interesting microcosm of environmental polarization (Bowman, 2013). Climate change predictions for Tasmania are less extreme than those for other parts of Australia, but nonetheless have potentially profound implications in the form of increased bushfire risk and sea-level rise for the coastal and heavily forested city of Hobart (CSIRO and Bureau of Meteorology, 2007). This risk was made highly relevant by a devastating sequence of bushfires burnt out over 100,000ha in Tasmania in 2013, the year before the survey took place (Tasmanian Government, 2013).

Although Hobart's largest electorate of Denison has one of the highest levels of support for the Australian Greens Party of any electorate in Australia (ABC News, 2016), residents of Hobart have divergent attitudes to the environmental movement, and the city is the scene of much public debate, often pitting economic development against the protection of natural resources. This debate is evident, for example, in local media (Tranter, 2012) and in the proliferation of conflicting political car bumper stickers (Tasmanian Museum and Art Gallery, 2007). Polarizing narratives developed during environmental conflicts over hydro-electric dams and forestry from the 1960s to the 1980s persist, colouring the debate about climate change (Lucas and Warman, in press). While the context of this polarization is specific, polarized responses to climate change are patterns repeated in varying local contexts across the globe, and the study thus offers local insights extensible and relevant to this global phenomenon.

Because people tend to identify themselves in ways that are relational to their environments, evaluations of environmental risk and responsibility are strongly linked to self-identity (Cheng et al., 2003). The interplay of Tasmanian, Australian, and global identities is therefore implicated in participants' concern or unconcern about climate change (Devine-Wright, 2013). Per capita, Australia is one of the world's highest emitters of carbon dioxide (World Bank, 2017), mainly due to a reliance on coal-fired electricity generation. However, Tasmania is a producer and net exporter of renewable energy in the form of hydro-electric power (Bahadori et al., 2013). For this reason, identifying primarily as Tasmanian rather than Australian might be expected to affirm one's concern about climate change. In an Australian national study, Devine-Wright et al. (2015) found that people who have a strong sense of themselves as Australian are less likely to be concerned about climate change than those who see themselves as global citizens. However, a recent study by Brugger and Pidgeon (2018) found that people refer to multiple scales of place identity in processing messages about climate change, in order to preserve and justify their existing values and interpretations. Examining values as the primary object of research may therefore shed light on the ways in which attitudes to climate change manifest. This article offers a situated and partial perspective (Haraway, 1988), grounded in the political, economic, and cultural geography of Hobart. Nevertheless, as Hobart is part of a globalized culture and economy, through which its residents are connected to multiple places at multiple scales, the values underlying divergent interpretations of the risk of climate change in this local context can also shed light on conflicts in the global political discourse of climate change.

Human values

Values theories seek to define and measure the subjective commitments that shape how people live. As defined in Schwartz' (1992) *Theory of Basic Human Values*, values are principles or beliefs that guide decisions in life. Values inspire both rational and affective commitment. They underlie specific actions and situations and act as standards for evaluation. Values and reasoning are interlinked, and the trade-off between multiple values directs decisions about how to act. Values are held and expressed by both individuals and groups – they are personal preferences, but are also affected by social and geographical context and cultural norms.

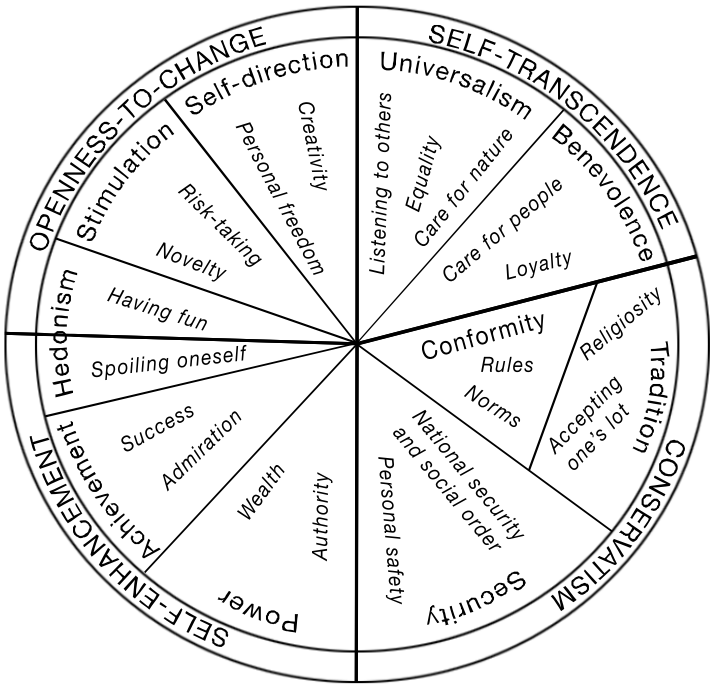
Climate change is often framed primarily as an environmental problem. This framing is unchallenged in much research into the effect of values on attitudes to climate change. A large number of these studies measure human values using survey instruments that focus specifically on people's understanding of human relationships with nature, such as Dunlap and Van Liere's (1978) New Environmental Paradigm (Dietz et al., 2007; Harring and Jagers, 2013; Reser et al., 2012; Whitmarsh, 2011; Ziegler, 2015) or Stern and Dietz's (1994) Environmental Concern instrument (Howell and Allen, 2017). However, climate change is both an environmental problem and a multi-dimensional, 'wicked' problem (Levin et al., 2012; Rittel and Webber, 1973). In using instruments that measure only the environmental dimension of the issue, these studies neglect important information about the diverse social constructions of climate change (Hulme, 2010).

Other studies into public attitudes about climate change draw on Mary Douglas's cultural theory, using a typology of five values priorities – also described as worldviews: egalitarianism, fatalism, individualism, hierarchism, and autonomy (Leiserowitz, 2006; Price *et al.*, 2014; Thompson *et al.*, 1990). Using this typology, several people have found that egalitarianism increases concern about climate change, while individualism decreases concern (Aasen, 2015; Kahan *et al.*, 2011). Drews and van den Bergh (2016) found that hierarchical values negatively predicted support for climate policy. However, cultural theory typologies have been criticized for their low explanatory power and internal reliability (van der Linden, 2017).

An alternative measurement of human values comes from Schwartz' (1992) theory, which is based on empirical studies from 67 nations. Schwartz suggests that people have an ordered system of values that is universal inasmuch as it has evolved across all races and cultures to enable humans to survive and thrive. He describes ten universal human values that comprise a spectrum along two orthogonal dimensions: one dimension represents levels of the higher-

order values of self-transcendence versus self-enhancement values; the other dimension represents levels of the higher order values of openness-to-change and conservatism[1] (Figure 5.1). People are unlikely to prioritize values opposite to each other on the spectrum, as this would cause internal conflict and reduce well-being (Bardi and Lee, 2009). In the Schwartz values spectrum, values of universalism and benevolence, being high in self-transcendence and high in openness-to-change, are opposed to values of power and achievement, which are low in self-transcendence (high in self-enhancement) and low in openness-to-change. Conservative values of security, conformity and tradition are low in openness-to-change, but high on the axis of self-transcendence, and oppose self-direction and stimulation – the openness-to-change values.

Figure 5.1 The spectrum of basic human values (based on Schwartz 2012 p.9)



[1] Schwartz calls the higher order value comprising security, conformity and tradition 'conservation'. Others have used the term 'traditionalism', and there is some overlap with the cultural theory value dimension of hierarchism (Roser-Renouf and Nisbet, 2008). In this study, I describe this set of values as 'conservatism', which is close to the Schwartz term but avoids the double meaning in relation to environmental protection.

Several studies have measured the relationship between support for climate change mitigation policies and human values using Schwartz's model. Most have found that self-transcendent values positively predict support for climate policy (Cheung *et al.*, 2014; Drews and van den Bergh, 2016; Howell and Allen, 2017; Schoenefeld and McCauley, 2016). While some such studies have used instruments designed to measure the whole spectrum of values theorized by Schwartz, several have restricted themselves to questions relating to the self-enhancement vs self-transcendence value dimension of the theory (Howell and Allen, 2017; Nilsson *et al.*, 2004; Nordlund and Garvill, 2002; Schoenefeld and McCauley, 2016; Steg *et al.*, 2005). Given that self-enhancement values are opposed to self-transcendent values in the Schwartz values model, most of these studies find a negative effect of self-enhancement values on support for climate policy. These studies excluded from analysis values on the openness-to-change/conservatism dimension.

Other studies that have found effects of openness-to-change or conservative values have mainly based their analysis on the four higher order values on both dimensions of the Schwartz values spectrum. Poortinga *et al.* (2011) found that conservative views were associated with climate scepticism. Unusual in examining associations across the whole spectrum of values with support for climate change mitigation and adaptation behaviours, Leviston *et al.* (2015) found that support had significant positive correlations with the values of universalism, benevolence and stimulation, and significant negative correlations between support and the values of tradition, security, achievement and hedonism. In studies examining environmental concerns but not specifically looking at climate change, Schultz and colleagues found that tradition had a significant negative relationship with environmental concern, while both tradition and security positively predicted an anthropocentric worldview (Schultz et al., 2005; Schultz and Zelenzy, 1999).

To summarize, studies examining the effect of human values on varying aspects of concern about climate change have used a wide variety of methods of analysis. Concern about climate change is widely linked to self-transcendent values. Unconcern has been associated with conservative and self-enhancement values. In the context of Hobart, this paper seeks to address the question: what values are associated with concern and unconcern about climate change? Rather than focus on higher order values, the research examines specific aspects of those values that may be responsible for attitudes to climate change. Because there is a lack of clarity in the literature about which values to rule in or out of analysis, the study includes

specific values from across the spectrum of human values as described by Schwartz (1992). As such it is an exploratory rather than a deductive analysis.

5.3 Data, method and variables

The relationship between human values and concern about climate change was measured as part of the Hobart Values Survey (HVS) in 2015. The non-probability sample comprised 522 adults in the Greater Hobart region. The survey was presented as a questionnaire on Hobartians' values, priorities and views on social issues.[2] The survey was designed to avoid priming for political bias on climate change as much as possible, and to this end no questions about electoral political orientation were asked. Questions about climate change drawn from a national survey of Australians by Reser *et al.* (2012) were presented amongst a range of other issues. This analysis focuses on responses to Q1 *How concerned, if at all, are you about climate change, sometimes referred to as 'global warming'?* Likert-scale responses range from 1 (not concerned at all) to 6 (extremely concerned).

The 21 question Portrait Values Questionnaire (PVQ) (Schwartz, 2003) was used to identify and measure values. The instrument reads: 'Below are some descriptions of different people. How much like you is the person described in these sentences?' An example of a PVQ item (measuring an aspect of conformity) is: 'They believe that people should do what they're told. They think people should follow rules at all times, even when no-one is watching'. Likert-scale responses range from 1 (not at all like me) to 6 (very much like me). The 21 questions can be combined into scales representing the 10 basic human values.

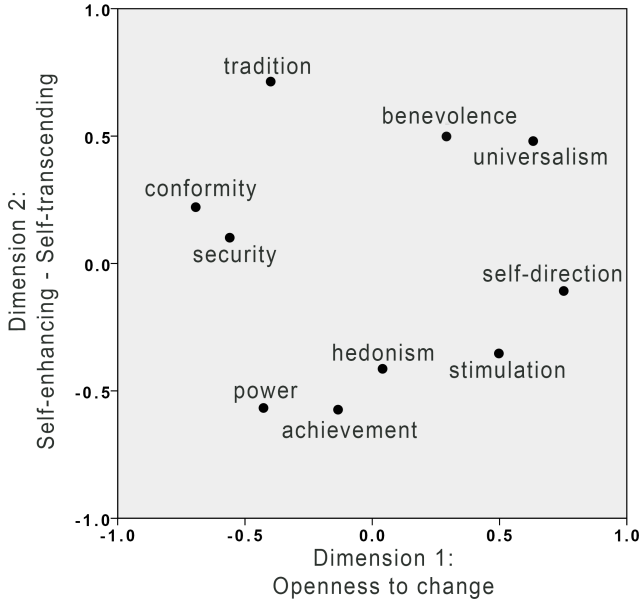
Survey respondents completed either a web-based survey advertised in local print and radio media through third party organizations such as Rotary clubs and Facebook and Twitter, or a survey on paper at community centres, social clubs, and local markets. These different sampling methods were designed to ensure that the sample was as diverse as possible, with coverage of different ages, genders, and levels of education. While the sample was not representative, non-probability samples can be 'fit for purpose' if the aim is to examine the interaction of personal characteristics and their effect on specific opinions or behaviours

[2] The study was approved by the Human Research Ethics Committee (Tasmania) Network, ref. H0014743.

(Baker et al., 2013). Further, in order to reduce sampling biases such as over- or under-representation of particular social groups, rim weighting was performed in SPSS (Peck, 2011), as recommended by Hahs-Vaughn (2005), to adjust the sample to conform to Greater Hobart population demographics of gender, age and education as found in the Australian Bureau of Statistics 2011 Census.

Multidimensional scaling (MDS) was used to test the structure of relations between the values. The MDS plot (figure 5.2) presents the relationships of the 10 values in two-dimensional space.[3] Each of the values in this analysis matches the pattern of relationships theorized by Schwartz, and confirms the circumplex structure of values. This approach reinforces the validity of using Schwartz's *Theory of Basic Human Values* to interpret the HVS data.

Figure 5.2 Multidimensional scaling of Hobart Values Survey Portrait Values Questionnaire data



Each of the 21 questions in the PVQ measures a different value concept. According to Schwartz's theory, they can be combined into scales representing the 10 basic human values. In creating these scales, information is necessarily lost. The decision about which questions

[3] An ordinal MDS was performed on z-transformed un-centred mean scores for each of the 10 values using Euclidean distances in Proxscal (SPSS 22) (following Schwartz et al., 2012).

to combine is based on reliability and theoretical considerations, as well as on a need to reduce the number of variables in the analysis. Because the PVQ questions cover different conceptual components of a value, rather than repeat measures of a single concept, internal consistency, or 'reliability' as measured by Cronbach's alpha is necessarily low (Schwartz, 2003). Schwartz (2013) suggests that alphas of .4 and above are reasonable for this instrument. In the HVS data, reliability was low (α<.4) for the combined conceptual components of power (wealth and authority); tradition (acceptance and religiosity); and security (personal safety and social order). Both conceptual components of power, tradition, and security are therefore included as variables in the analysis. For universalism, because I was interested in comparing care for nature with more human-focused (altruistic) values, I created a scale using combined scores for universalism (equality) and universalism (understanding difference) (α .54). I describe this combined variable as universalism (care for humanity). I include universalism (care for nature) as a separate variable. I used combined scores for values variables representing conformity (norms and rules) (α .49), benevolence (care for people and loyalty) (α .45), self-direction (creativity and personal freedom) (α .47), stimulation (novelty and risk-taking) (α .65), and achievement (success and admiration) (α .59). Hedonism is excluded from the analysis as it falls between the dimensions of self-enhancement and openness-to-change. Values scores were centred using the total mean score for each individual's responses to the PVQ, to correct for differences in scale use, as specified by Schwartz (2014). In the following analyses, I control for demographic factors by including variables for gender, age, and education.

The strength and direction of the relationships between values, demographics, and concern about climate change was initially measured using Spearman correlation (see table 5.1). Responses to Q1 were then dichotomized into two groups: unconcern (1–3) vs concern (4–6). Unconcern includes 'not concerned at all', 'not particularly concerned', and 'a little concerned'. Concern includes 'somewhat concerned', 'very concerned' and 'extremely concerned'. In order to investigate whether there were significant differences in values or demographic factors for these groups, I conducted a Mann Whitney U-test[4] (table 5.2). As a

[4] Because 16 variables were being tested, I use a Bonferroni adjusted p value of 0.003 to reduce the likelihood of Type 1 error.

final step, I used logistic regression[5] to examine the joint effect of values and demographic factors on climate change concern (table 5.3). Demographic variables were included as controls in each model as a first block. Model 1 adds, as a second block, the values variables found to be significantly different for the concerned and unconcerned groups in the Mann Whitney U-test (table 5.2). Subsequent models duplicate Model 1, but include a third block estimating the effect of other groups of values. The choice of values included in this third block is based on the grouping of variables according to their proximity in the Schwartz circumplex, and to ensure that a maximum of eight values variables are included in each model.[6]

5.4 Results

Concern about climate change was significantly positively correlated with prioritizing benevolence, universalism (care for nature), and universalism (care for humanity). It was significantly negatively correlated with being male, prioritizing power (wealth and authority), and security (social order) (see table 5.1).

[5] Multicollinearity between values variables was assessed using correlation coefficients (Spearman's rho) and variance inflation factor (VIF) values. Correlation coefficients were all below .5, and VIF values were between 1.6 and 3.2 (Rogerson (2014) specifies VIF values up to 5 are acceptable), and so multicollinearity was not expected. However, because even small amounts of multicollinearity can bias models, Schwartz (2013) suggests that a maximum of eight values variables should be included in a regression analysis. I therefore estimate four hierarchical binary logistic regression models comparing different sets of predictors of climate change concern and unconcern.

[6] Again I use a Bonferroni adjusted p value of 0.003 to reduce the likelihood of Type 1 error.

Table 5.1 Correlations of demographic and values variables with level of concern about climate change (Spearman's rho correlation coefficients)

Gender M/F (ref. male)	-.13*
Age (4 categories, ref.>65)	.03
Education (4 categories, ref. university graduate)	.04
Universalism (equality, understanding difference)	.40**
Universalism (care for nature)	.56**
Benevolence (care for people, loyalty)	.17**
Tradition (acceptance)	-.09
Tradition (religiosity)	-.07
Conformity (norms and rules)	-.11
Security (personal safety)	-.01
Security (social order)	-.22**
Power (wealth)	-.11*
Power (authority)	-.26**
Achievement (success and admiration)	-.05
Stimulation (novelty and risk taking)	.02
Self-direction (creativity and freedom)	.04

* p<.05, **p<0.001

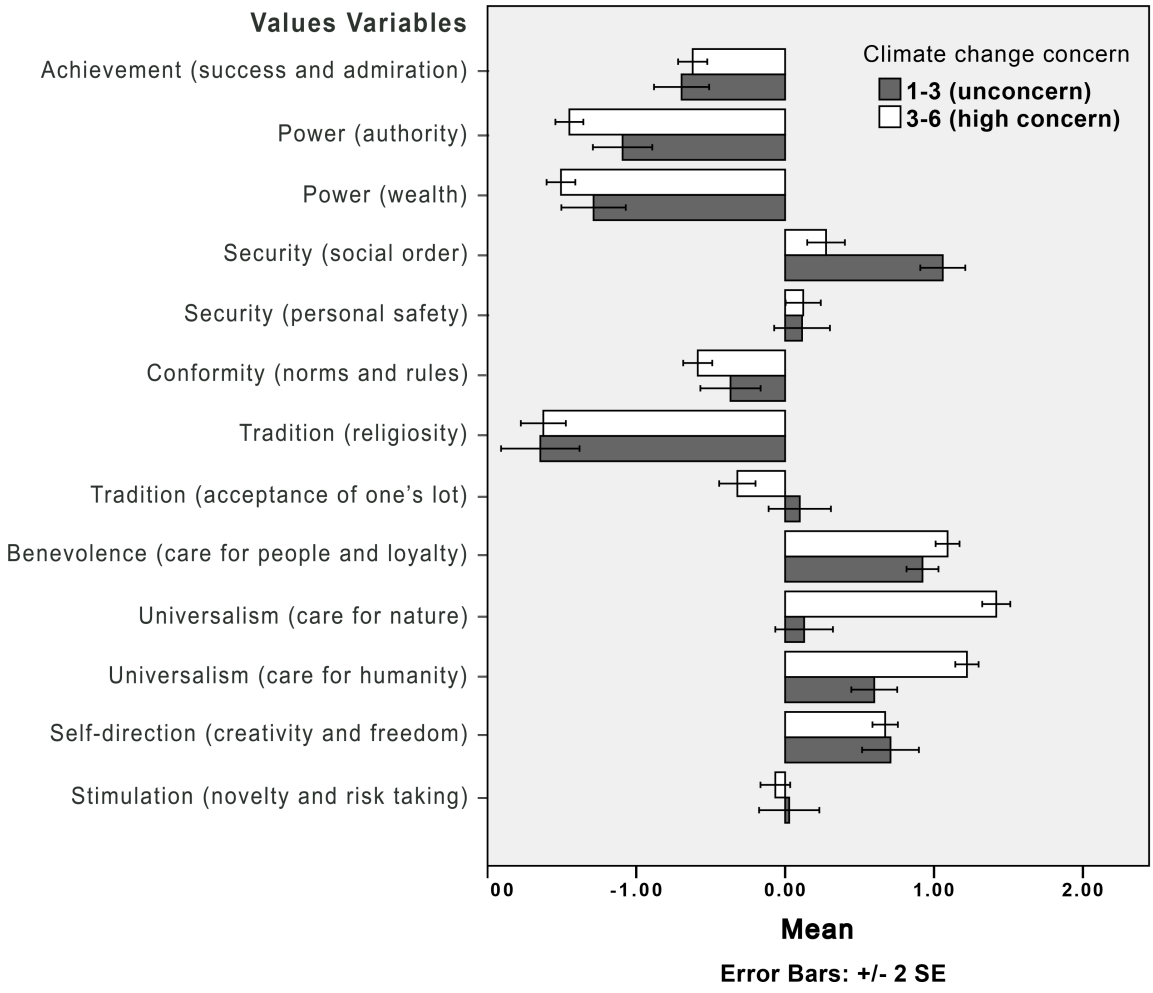
In the Mann-Whitney U-test (table 5.2), none of the demographic variables, and only four values variables were significant. High levels of climate change concern were associated with significantly higher priorities for universalism (care for nature) and universalism (care for humanity). Unconcern about climate change concern was associated with significantly higher priorities for security (social order) and tradition (acceptance of one's lot). Figure 5.3 compares the mean scores of each of the 13 values variables tested for unconcern versus high concern. Values with positive mean scores are more prioritized, while values with negative mean scores are less prioritized.

Table 5.2 Mann Whitney U-test showing significantly different variables for unconcern vs high concern about climate change

Variable	Median unconcern	Median high concern	U	z
Universalism (care for nature)	-.25	4.43	6231	-10.15**
Universalism (care for humanity)	.87	3.81	9870	-7.01**
Security (social order)	4.55	.21	10893	-6.13**
Tradition (accepting one's lot)	.16	-.70	13177	-4.16**

*p<.003, **p<.001

Figure 5.3 Mean scores for each value variable according to high concern/unconcern group



Which values predict concern and unconcern about climate change? Table 5.3 presents odds ratios for having high concern about climate change obtained from four binary logistic regression models. Predictor variables for gender, age and education were included as a first

block in each model. Model 1 adds a second block estimating the effect of the values variables found to be significant in the Mann Whitney U-test: universalism (care for nature), universalism (care for humanity), security (social order) and tradition (accepting one's lot). Subsequent models duplicate Model 1, but include a third block to estimate the effect of other groups of values. Model 2 tests openness-to-change values – self-direction and stimulation; Model 3 tests self-enhancement values – power (wealth), power (authority) and achievement; and Model 4 tests conservation values – conservation, tradition (religiosity) and security (personal safety) and also includes the adjacent self-transcendent value of benevolence.

In general, consistent with other studies (Ashworth et al., 2011; Reser et al., 2012), university educated respondents were more concerned than those with less education; younger people were more concerned than older people; and women were more concerned than men. However, none of these demographic variables was significant in any of the models. On their own, the demographic variables were responsible for around two per cent of the variance between concern and unconcern (Nagelkirke R^2 0.02). There was a far greater effect of values in each of the models tested. Of the four models tested, Model 2, which included openness-to-change values, as well as the four values previously found to be significant, achieved the best goodness-of-fit, correctly classifying 85 per cent of cases and explaining approximately 49 per cent of the variance. The following interpretation therefore relates to Model 2. Care for nature was strongly associated with climate change concern. People who prioritize care for nature were four times more likely to be concerned about climate change than those who do not. Care for humanity was non-significantly associated with climate change concern. Two conservative values were significant predictors of unconcern about climate change. Prioritizing national security and social order increased the odds of low concern about climate change by 1.8 times. A strong sense of tradition, accepting one's lot in life, and not feeling it is right to ask for more increases the odds of unconcern about climate change by 1.7 times. Interestingly, the value of self-direction, which directly opposes the value of tradition, was also a significant predictor of unconcern. Prioritizing the freedom to make one's own decisions and do things one's own way increased the odds of being in the unconcerned group by 2.4 times.

Table 5.3. Binary logistic regression model comparing high concern and unconcern about climate change

High concern (cf. low concern)	Model 1				Model 2				Model 3				Model 4			
	B	Odds ratio	95% CI for OR		B	Odds ratio	95% CI for OR		B	Odds ratio	95% CI for OR		B	Odds ratio	95% CI for OR	
			lower	upper			lower	upper			lower	upper			lower	upper
Gender (female cf. male)	.46	1.59	.88	2.85	.27	1.31	.71	2.40	.63	1.87	1.01	3.45	.44	1.55	.84	2.88
Age (cf. 18-29):																
30-49	-.32	.73	.28	1.93	-.01	.99	.36	2.71	-.03	.97	.36	2.62	-.20	.82	.30	2.22
50-64	-.87	.42	.19	.96	-.23	.80	.33	1.94	-.55	.58	.24	1.38	-.86	.42	.18	.97
65+	-.15	.86	.41	1.81	.02	1.02	.45	2.33	.23	1.26	.55	2.90	-.04	.97	.43	2.17
Education (cf. university):																
School leaver	-.04	.97	.29	3.17	-.26	.77	.22	2.66	.13	1.13	.33	3.86	-.15	.86	.25	2.97
TAFE/ vocational training	-.13	.88	.26	2.96	-.17	.84	.24	3.02	-.04	.96	.27	3.39	-.25	.78	.22	2.75
Values variables:																
Universalism (care for nature)	1.27	3.54**	2.58	4.86	1.40	4.05**	2.88	5.71	1.48	4.38**	3.00	6.39	1.32	3.74**	2.69	5.21
Universalism (care for humanity)	.22	1.25	.86	1.81	.39	1.47	.99	2.20	.50	1.65	1.05	2.60	.13	1.14	.76	1.71
Security (social order)	-.44	.65*	.49	.86	-.61	.55**	.40	.74	-.28	.76	.56	1.02	-.51	.60*	.45	.81
Tradition (accepting one's lot)	-.40	.67*	.52	.87	-.53	.59**	.45	.77	-.26	.77	.58	1.03	-.34	.71	.54	.93
Self-direction					-.91	.41**	.27	.60								
Stimulation					-.17	.85	.61	1.17								
Power (wealth)									-.02	.98	.70	1.36	.24	1.28	.85	1.93
Power (authority)									.09	1.10	.79	1.52	-.24	.79	.56	1.11
Achievement									.71	2.03	1.35	3.07	-.08	.92	.75	1.13
Security (personal safety)													.25	1.28	.97	1.68
Tradition (religious belief)																
Conformity																
Benevolence																
Constant	.39	1.47			.99	2.69			.39	1.48			.21	1.23		
Model fit	$\chi^2(10, N=478)=162.87$**				$\chi^2(12, N=478)=187.78$**				$\chi^2(13, N=478)=175.17$**				$\chi^2(14, N=478)=168.76$**			
Nagelkirke R^2	.44				.49				.47				.45			
Percentage observations correctly classified	81.4				84.7				81.5				83.1			

*p<0.003, **p<0.001

5.5 Discussion and conclusions

This study shows that, in this sample of Hobart residents, values have a far greater impact on attitudes to climate change than do gender, age, or level of education. High levels of concern about climate change are strongly associated with prioritizing care for nature over other values. Other self-transcendent values, while positively correlated with climate concern, are not significant predictors of concern. This finding suggests that climate change is perceived primarily as an environmental issue among respondents.

Those in the unconcerned group appear to be motivated by two very different groups of values: the conservative values of prioritizing security and social order, tradition, and accepting one's lot in life; and the openness-to-change value of self-direction. According to Schwartz's *Human Values Theory*, these values are directly opposed, and it is unlikely that individuals would simultaneously prioritize both of these sets of values. The structural conformity of the values circumplex in the HVS data as shown in the MDS (Figure 2) also indicates that this group consists of two different sub-groups with differing motivations for unconcern about climate change, rather than one group with internally conflicting values. The results suggest that people who value security and tradition (associated with a socially conservative attitude) may form one section of those who are unconcerned about climate change, while people who value individual freedoms (associated with more libertarian attitudes) form another section of the unconcerned.

5.5.1 Implications of the research

The innovative approach of this study was to include measures from each dimension of the spectrum of human values to investigate which specific values underlie concern and unconcern about climate change. In the Hobart sample, results showed that concern about climate change was clearly linked with environmental, rather than humanitarian concerns (consistent with research by Steg et al., 2005). Unconcern was associated both with concern for national security and upholding traditional social order, and with a concern to protect individual freedoms. Other studies have found these associations individually: for instance, Aasen (2015) found an association between prioritizing individual freedoms and unconcern about climate change in Norway, and Poortinga *et al.* (2011) found that climate scepticism was associated with traditional and conservative views in the UK. To my knowledge no other study has investigated these different aspects of the values spectrum simultaneously.

The strong association between concern for climate change and care for nature in the data reveals the strength of cultural narratives framing climate change as an environmental issue. It may also reflect the relevance of environmentalist discourse to the Tasmanian community. A spatially-informed analysis of these findings draws attention to the political and environmental contexts in which the values are situated. Relatedly, low prioritization of care for nature among those unconcerned about climate change may be due to a history of reliance on natural resources to maintain both the Australian, and the Tasmanian economies. Conservative values prioritizing national security and traditional social order as key values for people who are unconcerned about climate change imply specific boundaries of responsibility. The well-being of those in Australia, in this instance, is prioritized over global well-being. Individual responsibility is devolved to the traditional authorities governing the nation state. These values are consistent with an attitude of unconcern about climate change that limits an individual's moral horizons to the local, and sees little active role or responsibility for individual citizens of democracies. Aspirations to preserve Tasmania's traditional extractive industries of forestry and mining are also implicated in the values of security and tradition prioritized by the unconcerned. The desire for freedom to exploit the island's highly protected natural resources, some of which have been the subject of controversial challenges forests within Tasmania's World Heritage Area, may be part of the context for the strength of association between self-direction and unconcern about climate change (Lucas and Warman, 2018). The desire to continue to make use of climate-changing natural resources is also evident in the wider Australian context, as governments and communities wrestle with the economic consequences of the end of the resources boom (Gibson et al., 2011).

The finding that unconcern is associated with both conservative and self-direction values also reflects existing right-wing political coalitions, particularly in Australia and the US, in which social and religious conservative traditionalists partner with free-market libertarians to further shared priorities that are underpinned by divergent values. Blee and Creasap (2010) argue that in the US, this political union has allowed historical doctrines of white privilege to be shifted into a discourse focussing on freedom and rights to individual liberty. While more palatable to a twenty-first century public, this discourse continues to justify the economic and political dominance of white, male and privileged sections of society. My findings show that unconcern about climate change in Hobart is underpinned by values consistent with this system-justifying discourse. For both socially conservative and libertarian individuals, concern

and action on climate change are associated with threats to the continuing dominance of existing hierarchies that advance their own values and interests.

Although, as I have argued, Hobart is a fitting site in which to examine public polarization about environmental issues, it would be useful to test this approach on other, representative samples in Australia and worldwide. A further limitation of this primarily quantitative study is that it is unable to empirically examine the lived and situated context of individuals' varying concerns about climate change. Further research using qualitative methods to investigate how people apply their values in responding to private conversations and public debate about climate change could help to address this gap.

5.5.2 Opportunities for improving climate change communication

The strength of a values approach is that it illuminates aspects of care and concern more fundamental than political partisanship, and suggests new ways of thinking about how to communicate about climate change. Instead of continuing to pit left and right-wing responses against each other, research employing a focus on values shows what these responses have in common. For example, both conservative publics who seek to protect social order, and publics concerned to protect the natural environment, seek to minimize change, but in different contexts. As data from many human values surveys have shown, people are not grouped into distinct clusters around one subset of values – rather each of us has a complete spectrum of values, which we prioritize in different ways. Despite these differences, across populations, self-transcendent values are the most prioritized, and self-enhancement values are the least prioritized, as seen both in international studies (Schwartz, 2012) and in the Hobart cohort. This pattern presents an opportunity for climate change communicators to use human values studies to focus their engagement with those who are unconcerned about climate change (see for example Public Interest Research Centre, 2011).

There is considerable potential to use the human values approach to create more inclusive narratives about climate change. Importantly, this approach would cease to promote divisive narratives such as those that pit environmentalism against development. The fact that conservative values are not contradictory to self-transcendent values suggests that if fear of social change was mitigated, for some people, self-transcendent values might come to the fore. Increasing people's prioritization of self-transcendent values is likely to increase concern about climate change and support for mitigation. Values of benevolence, including responsibility, are theoretically close to conservative values on the Schwartz' values spectrum,

suggesting that climate change narratives that emphasize caring and responsibility for other people, while avoiding 'othering' those people, could be useful to engage people who prioritize conservative values. In addition, narratives that emphasize the careful management of change in both environmental and social spheres is likely to appeal to more conservative values. For those who are unconcerned about climate change and prioritize self-direction, narratives relating to aesthetics, and emphasizing broadmindedness, may be beneficial for engaging these audiences. The UK's National Trust (2017) is starting to use this type of narrative in relation to beautiful design in renewable energy infrastructure. People who express unconcern about climate change may not hold an attitude of unconcern as a core belief, but rather inherit it as part of a package of views that is associated with membership of their social group. In this way, people can get stuck in 'ruts' where the same unhelpful narratives are perpetuated from one environmental conflict to another (Lucas and Warman, in press, in Chapter Six). Broadening the values underlying narratives about climate change in the public sphere could help to shift people out of the patterns of beliefs that sustain polarized responses to climate change.

While values only account for a proportion of the variation in concern about climate change, they are the basis for how people think of themselves in the world (Corner et al., 2014). They frame what people see as fundamentally important, and why. The Hobart study shows that people are concerned about climate change primarily because they care about the environment. This suggests that those who do not identify as environmentalists may feel that this is not a concern for them. Those who are unconcerned about climate change belong to one of two groups – those who are concerned to maintain the security of the *status quo*, and those who prioritize individual freedoms. These groups are likely to be averse to climate policy for divergent reasons. This study shows that understanding the values underlying differences in concern about climate change can help to improve communication about climate change with currently disengaged sections of society. It offers insights to address polarization, and opportunities to renew a currently partisan debate.

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Commentary

Part III is a qualitative inquiry into unconcern about climate change. It is based primarily on interviews undertaken with nine participants in 2015-16. **Chapter Six, Qualitative methods** describes the methods of interview and analysis used in this section. **Chapter Seven, Stories of the unconcerned** – the 'heart' of the thesis – is a series of ten narrative vignettes based on my analysis and experience of the interviews. While the majority of chapters in this thesis are papers for publication, these vignettes, which are the product of narrative analysis, do not suit a journal format. I have made full advantage of the flexible format of a thesis to allow these vignettes the space needed for a deep exploration of the lived context of interviewees' unconcern about climate change.

Chapter Eight, When climate change is a matter of unconcern is a paper co-authored with Aidan Davison, currently in review for *Environment and Planning E: Nature and Space*. This paper explores how unconcern about climate change has been framed within climate change communication, and other (mostly quantitative) research. It uses the narratives of three of the interview participants to critique 'concern deficit' models of communication, and to examine how well the sources of unconcern identified in other research explain the lived experience of unconcern in these participants' stories. I was responsible for approximately 80 per cent of the planning, research and writing (see statement of co-authorship on page ii).

Chapter Nine, Getting to know the others: Repeat interviews and delayed disclosure as a method for researching a politically sensitive issue is a paper in review for *Qualitative Inquiry*. I am the sole author. This paper reflects on the outcomes of the innovative method developed in the qualitative part of this study. It uses the narrative of one of the interview participants as an example of the benefits and challenges of this method.

Chapter Six | Qualitative Methods

6.1 Why use qualitative methods?

The data gathered from the Hobart Values Survey enabled me to see some interesting and novel internal relationships between people's values and their opinions, and to identify wider social patterns in the values underlying attitudes to climate change. However, surveys abstract people from their experiential context, and there is a danger of reductionism in assuming that the kind of information gathered in this way is representative of the processes of reasoning of the individual participants involved. I was interested in the experiential and discursive processes of evaluation through which some survey respondents had become unconcerned about climate change. I therefore planned to deepen the insights generated by the survey through an extended qualitative engagement with a subset of the survey participants. Through this qualitative method, participants could be empowered to engage with the research on their own terms.

6.2 Recruitment of participants for the qualitative inquiry

Of the 522 participants in the survey, 347 expressed interest in participating in interviews. In a Likert scale (1-6) question asking "How concerned (if at all) are you about climate change (also known as global warming)?" the majority of participants had responded that they were between 4 (somewhat) and 6 (extremely) concerned about climate change. I was interested in those who defied this norm. Of those who said they would consider taking part in interviews, 49 had responded that they were 1 (not at all), 2 (not particularly) or 3 (a little) concerned about climate change. Of this pool, I aimed to recruit five men and five women. Six were excluded because I knew them personally, or they were staff of the university, or were closely related to other participants who had agreed to be interviewed. I contacted 20 potential participants, of whom 10 agreed to take part. One of the participants withdrew from the study after one meeting, because of changes in her family circumstances. Of the remaining nine interview participants, one had responded 1 (not at all concerned), three had responded 2 (not particularly concerned), and five had responded 3 (a little concerned) about climate change. A strength of this method is that it recruited people not easily or commonly engaged in public attitude research: those disengaged from the topic of the research; as well as those with socio-economic disadvantage, and people who work long hours (Ritchie et al., 2013).

6.3 Interview method and rationale

The nine participants agreed to allow me to interview them up to eight times each, over a six month period, meeting where it suited them: which was variously at their home, in their car, at work, or at a cafe. I met seven participants eight times each, and the two remaining participants six and seven times, respectively. Each interview took approximately 30 minutes. Overall, I conducted 62 dialogical, semi-structured interviews between September 2015 and March 2016.

My main aim in undertaking a series of repeat short dialogical interviews, rather than one or two long, in-depth interviews, was to develop trusting and reflexive relationships with my participants. Trust was important both so that my participants were open to a deep engagement and might give me rich and reflective responses, but also so that I might develop an empathetic connection with participants who were 'other' to me in that they did not share my concern about climate change. I hoped that by making our conversations part of a regular routine, we would become familiar with each other, and that this would enable both greater openness, trust and empathy, and a larger number of opportunities to address issues of interest. Having this number of interviews also reduced the pressure on me as an interviewer to elicit information quickly or with a predetermined intention – enabling me to be more relaxed and to treat each interview as a conversation – and this mood of relaxed conversation was reflected in the responses of participants. It also meant that I could ask participants to lead the discussion in several interviews, which helped to address potentially uneven power-dynamics, empowering participants to direct some aspects of the research.

The repeat-interview series also enabled an innovative process of delayed disclosure of the specific aims of the study to participants. By moving over time from personal, to local, to global concerns, and from personally held values and commitments to reactions to publically controversial issues I was able to explore the underlying context and reasoning underlying their beliefs about climate change. This process aimed to reduce the likelihood that participants' responses to questions about climate change would reflect only the accepted narrative of their social or political group. Because views on climate change are socially and politically constructed, foregrounding either climate change or political ideology in the minds of my participants may have elicited politically determined responses (Hart and Nisbet, 2011; Unsworth and Fielding, 2014). The process was designed to enable participants to give a more profound and reflexive response to the issue through an extended process of self-

reflection with an empathetic listener. This was facilitated by the delayed disclosure of the aims of the study. The timeframe of eight interviews over six months also allowed me to bring into discussion timely issues from the news as they occurred, and to allow participants' life events to influence the research encounter.

To avoid generating avoidable bias in participants' responses, I did not specifically address climate change during the first four interviews, unless it was introduced into conversation by the participant. I described my research in its most general sense as an exploration of how participants thought about controversial issues in the public sphere in the context of their own lives. My aim was to use these interviews to find out what participants were actively concerned about, so that I could place their attitudes to climate change in the context of their values, life experiences, social identity and their core concerns. Climate change was introduced as a topic of discussion in the fifth interview. In the sixth interview I explained to the participants that while interviews have covered wide-ranging issues, climate change was the central focus in this study. Given that participants might reasonably feel misled about the aims of the study, at this point I re-iterated the participant's right to withdraw from the study entirely, or withdraw any or all of their responses during interviews. As specified in my ethics approval for the study (see note on ethical conduct on page 8), I asked participants to explicitly re-consent to taking part in the study at this point. None of the participants wished to withdraw, and all provided written re-consent. The continued involvement of participants attests to the trusting relationships engendered through the process of multiple interviews before this point. During the final interview, I asked participants to reflect on the process of this research, and give feedback on the effect of the method of delayed disclosure. All feedback was positive, and none of the participants reported negative feelings in relation to this method. Several responded that they had enjoyed the process of self-reflection with a sympathetic and non-judgemental researcher. In Chapter Nine, I reflect on the consequences for participants and for me as researcher of my use of multiple interviews with delayed disclosure of aims, and describe the benefits and ethical challenges of this method.

6.3.1 Trust and empathy in the interviews

I set out with the explicit aim of developing reciprocally trusting and empathetic relationships with the participants, who I initially saw as 'other' in that they were unconcerned about climate change. I will only deal briefly with trust here, as literature defining trust and its effects in society are the subject of inquiry in Chapter Three. Trust is both social glue and a lubricant of communication – it holds together relationships and helps conversations to flow

smoothly (Cook, 2005). Building trust with participants is often described as critical to qualitative fieldwork, but how it is achieved, maintained and documented in interview situations is complex and mysterious (Magolda, 2000). Part of this complexity is because of the reciprocal nature of trust – in order to be trusted, one must trust in turn (Peel, 1998). This is made easier by the mutual familiarity gained in a multiple interview process. It is also facilitated by participants feeling secure in their surroundings (Denzin and Lincoln, 2005). For this reason, I asked participants to choose the venue for our meetings. Responding sincerely to questions by participants is also important to enable trust (Oakley, 1981) – I answered questions about myself and tried to be as open as possible.

Empathy has multiple definitions in the research literature (Cuff et al., 2014). Some writers assert that empathetic connection requires and is based on shared experience, contributing to an 'insider' perspective (Lather, 2009). In contrast, I wished to maintain an 'outsider' perspective in that I did not seek to reduce the difference between my view of climate change and theirs. Rather, I wished to engage in the sort of empathy across difference described by Gair (2012: 135), that goes beyond passive understanding "to convey a willingness to enter imaginatively into the life of someone else." For Gair the quest of empathy is:

> to hear, feel, understand, and value the stories of others, and to convey that felt empathy and understanding back to the client/storyteller/participant. At times, this quest might extend to learning collective lessons from the stories and presenting that learning to readers in a way that preserves empathy. (2012: 139)

In my study, empathy was a goal (imperfectly attained) for my interactions with participants. It is also the aim of the analysis that produced the vignettes in Chapter Seven, and the other places in which I represent the narratives of my participants (Chapters Eight, Nine and Ten) to preserve this empathy by making it hard for the reader to 'other' the participant. In doing so, I seek to develop a response to difference in attitudes to climate change that does not blame, demonize or pathologize, but to understand, engage and respect. As such I aim to be self-reflexive and transparent about my explicit and implicit role in the co-construction of meaning (see Squire, 2008). I recognize that my values are central to the way I have carried out the research and to the conclusions that I have reached. However, this is not an action research project. My aim was to understand other people's responses to the threat of climate change, not to actively change them.

6.3.2 Interview style and content

The interviews were designed to be conversational and informal. While I initiated the theme of each interview with a specific prompt or question, I followed the flow of conversation as much as possible. Several interviews in the series (1, 2 and 7) were designed to enable participants to lead the discussion according to their interests, while others required me to ask specific questions or to set specific tasks for participants or to provide stimulus material, in order to get responses to a comparable question, task or stimulus for each participant. I asked open questions as much as possible, and endeavoured to avoid introducing my own assumptions or biases into the conversation.

The framework for each interview was as follows:

Interview 1: Personal identity and values

I asked participants to show me a photograph that said something about who they were, and what was important to them. This method aimed to empower participants in agenda-setting from the outset (Holstein and Gubrium, 1995). It was also intended to generate affective, as well as reasoned responses, as it prompted people to describe a captured moment involving the people, places, or events that were important in their lives (Kearney and Hyle, 2004). Using the photographs as a starting point, I asked open questions with the aim of eliciting life stories in the context of the participant's representation of their values, commitments and priorities in life. This was the starting point for an inquiry into participants' substantive concerns, providing a context for their unconcern about climate change.

Interview 2: Relationship with social communities

I broadened the scale of enquiry to ask about the different communities to which participants belonged. While most people tended to interpret this question as relating to geographical communities of neighbours, I also asked about communities of interest, such as clubs, online groups or charities, and other social networks such as family, friends, church communities and work communities. I used the word 'community', to imply shared social interests with other people. My intention was to find out how participants were connected to particular social groups, and the strength of these connections (Catney et al., 2013). I wanted to find out what level and kind of influence different social groups had on participants' identities, and on their attitudes and opinions (Greene, 2013). I also sought to understand the connections (if any) they made between the communities they belonged to, and in what way these connections might form networks of trust (see Chapter Three). This line of inquiry was

important to build a picture of the effect of participants' experience in social groups on their attitudes to climate change.

Interview 3: Interpretation of public issues in the media

I asked participants to bring a media article they had read and discussed, or had been interested in during the previous week. Again, this was intended to put the power of framing the discussion into their hands. Moving into discussion of issues in the common space of the public sphere (Taylor, 2002) was a further broadening of scale from previous interviews. Asking participants to choose something that had sparked their interest enabled me to examine how their interests, values and social group affect their choice of media and subject (Boykoff and Yulsman, 2013), and how their interpretation of the media stories interacted with broader cultural narratives (Taylor, 1989). It also enabled participants to reflect on how these cultural narratives connected with their own priorities and the values they had expressed in previous interviews (Niemeyer, 2011).

Interview 4: Further exploration of public issues in the media

I chose a media article from the previous week for participants to read and discuss. The intention of this interview was to find out how participants engaged with controversial issues in the public sphere that were not directly related to climate change, but that might shed light on their broader frameworks of interpretation relevant to climate change (Cottle, 1998). Because these frameworks were different for each participant, my choice of article was not the same for each participant, but was based on my developing understanding of their interests and values. I chose articles that, based on previous conversations, focused on values of active concern to participants. Five participants were given articles that examined issues of trust in scientific expertise in medical contexts such as gene therapy, smoking and vaccinations (Wynne, 2006). Four were given articles that looked at issues of personal and public security, such as gun control, terrorism and bullying, that related to my sense of their concern for ontological security (Giddens, 1990). Again, participants were encouraged to refer back to previous conversations and reflect on their frameworks of evaluation in interpreting the risks in these stories.

Interview 5: Climate change

I began by asking participants about their relationship with nature. I then asked if they had any concerns about threats to the natural things they cared about. If they did not raise the issue of climate change, I then asked why they had not referred to climate change. By framing

the conversation around nature, I hoped to engage people in a personal and emotional response when I asked about climate change, and to avoid, if possible, an argumentative reaction – as might be provoked, for example, if I had started with a political framing (Schwarz, 1994). I asked what climate change meant to them, and how they came to feel this way. I further asked if any particular images came to mind when they thought about climate change, and what information they had seen about it (O'Neill and Smith, 2013). In order to find out about the social context of their attitude to climate change, I asked whether they thought their communities (such as family, friends, colleagues, fellow church or club members) felt the same way as they did, and if it was a topic of discussion (Brewer and Kramer, 1986). Finally, I asked participants to imagine and describe what Tasmania might look and feel like in 2100. This question was designed to find out about how they imagined the future, in general terms, and if climate change was implicated in their imaginary. By situating the question in a geographical context with which they have a personal connection, it again aimed for a more profound response to climate change in a lived context.

Interview 6: Explanation of aims and methods of research, process of re-consent

I explained that climate change was a central interest in my research. I clarified why I had not previously disclosed the specific focus of my research to participants, and I asked them whether they were comfortable with this. I reminded them of their right to withdraw their participation, and asked them to explicitly re-consent, if they were happy to do so, by signing a new consent form (see Appendix II). Several participants chose to continue the discussion about climate change at this point, some now feeling that they needed to justify their unconcern in light of the context of my study. This further confirmed the value of the method of delayed disclosure, in that it suggested that their previous responses had not been affected by an assumption that I had a strong commitment to a certain view of climate change which might have tempered their responses.

Interview 7: Opportunity for participants to raise issues

In order to overtly reorient power dynamics of the interviews back toward the participants for their final interview, I asked participants to nominate a subject we had not discussed that was important to them, or that they would like to discuss further (Limerick et al., 1996). Some participants were keen to introduce new issues or return to issues they wanted to discuss further, while others preferred me to guide the interview – in the latter case, I took the opportunity, now that I was not in danger of biasing responses to climate change, to ask for more detail about their political views: which party they tended to vote for, and why.

Interview 8: Thanks and feedback

The final interviews were somewhat celebratory – I took each remaining participant out to lunch to thank them for the time and effort spent on my project, and for their openness in talking with me. I asked them to reflect on the process, and to give me feedback on their experience of the research, any suggestions of ways things could have been done differently, and on their experience of the method of delayed disclosure.

6.4 Analysis

6.4.1 Discourse analysis

I have previously introduced concepts from discourse analysis as described by Hajer (1993, 2006; 2009) in Chapter Two. Successful discourses are powerful, and institutionalize certain practices, ways of reasoning, and understandings of reality (Hajer, 1993). The form of discourse analysis I have used draws on Hajer's (1993) proposition that argumentative narratives, or 'storylines,' are used within discourse for the purpose of mobilizing bias for political ends. Following Hajer's (2006) method, I have analysed transcripts of interviews for storylines, which Hajer (2006: 69) describes as "condensed statement[s] summarising complex narratives, used by people as 'short hand' in discussions." I first used the concept of storylines in Lucas and Warman (2018), which can be found in Appendix I. Through storylines, general understandings of an issue are discursively constructed. These building blocks of discourse are shared and familiar. They reproduce particular ways in which issues are understood by existing groups, referred to by Hajer as 'discourse coalitions'. Discourse coalitions are "the ensemble of a set of story lines, the actors that utters these story lines, and the practices that conform to these story lines, all organized around a discourse" (Hajer, 1993: 47). The storylines of dominant discourse coalitions become the accepted narrative of powerful actors, and are reflected in institutionalized policy practices (Hajer, 1993). These concepts are used in Chapter Ten.

6.4.2 Narrative inquiry

Because I was able to interview participants multiple times, and gain a rich understanding of their views and attitudes, I had a wealth of contextual information in which to situate their unconcern about climate change. Rather than attempting to make generalizations about reasons for unconcern across the group, I wanted to examine how their individual views made sense to each participant, in the context of their own lives. The analytic method of narrative inquiry enabled me to explore both individual and structural reasons for unconcern, and to

retain the lived context of personal stories. I used deductive and inductive strategies in the process of narrative analysis. Exploring how we 'story' our lives, narrative inquiry deals with the building of individual identity (McAdams, 1996). How we tell our stories – what we emphasize, what we leave out, whether we portray ourselves as protagonists or victims, the language and metaphors we use – not only constitute our personal identities, but enable culture to 'speak itself' and be constituted through our stories (Rosenwald and Ochberg, 1992). Within each person's story, personal values and cultural norms interact. This process is co-constructive – the stories we tell about ourselves are often limited by cultural norms (this can be seen for example, in the number of women who describe themselves as 'no good at science', which reflects a cultural norm that science is a male discipline). However, sharing personal stories can also shape cultural norms (as we are now seeing in society's developing intolerance to sexual harassment, following the catalyst of personal stories shared through the #MeToo movement). Through the stories people tell about their lives, perceptions of the past, present and future are fashioned and re-fashioned, interpretations of events are moulded and applied to other events. The stories of individuals are thus connected and developed to link to broader cultural narratives, through which moral positions of social groups are fostered and shared (Fivush, 2010). The form of narrative analysis I have used is also influenced by Hajer's interpretation of Foucault's post-structuralist theory (Hajer, 1993; Hajer and Laws, 2009), in that I see patterns of narratives as embedded in ordered systems and practices, through interpretative communities and institutionalized patterns of discourse.

The method of inquiry I have followed is dialogical, in that my participants were part of conversations in which I was asking questions, listening and responding to their stories, and occasionally sharing stories of my own. This interaction has been a collaborative process of co-producing meaning. I have tried to be self-reflexive: both in reflecting on the ways in which my own storied identity shapes and co-constructs the stories my participants tell me; and in acknowledging the effect of my own background, context and assumptions in the way I have elicited, read, analysed and represented these stories. As all stories are constructed for the purpose of representation, it is inevitable that my participants shaped their stories based on their interpretation of what I might want or need as the researcher. Occasionally, especially at the beginning of the interview series, participants would ask "is this the kind of thing you want?" to which my answer was "yes – there are no wrong answers", because what I wanted was for them to trust me enough to become less guarded or less concerned to meet my needs as a researcher, and to be more open in sharing their thoughts and feelings. In representing

my participants' narratives, I have tried to also represent my part in shaping their responses through taking part in conversation, or through their interpretation of my identity, or my conduct and expectations in the interviews.

Analysing interview transcripts as narrative texts allows me to place participants' decisions, opinions and values in the context of their lives, and broader social narratives and norms. Narrative analysis reveals how participants make sense of the lives they have lived, and how they have become the people they now are. Their use of language in the construction of these narratives is important, as it can reveal ways of thinking that underlie the explicit story being told. For this reason, I have looked closely at the use of metaphor, forms of expression and repeated use of particular words in analysing these texts (Hajer, 2006).

6.4.3 Transforming experience into data and analysis

Interviews were audio-recorded using a small handheld device, then transcribed (mostly by commercial third party transcription services). In presenting the interviews I have used 'intelligent verbatim' (Miller, 2012) – i.e. omitting repeated words (where repetition is not part of an intended meaning), fillers (such as ah, er), and verbal tics (such as excessive use of 'y'know', or 'like', when these are often repeated phrases that not part of the meaning of the sentence). I have sometimes omitted expletives when they were not used as adjectives. I chose this form of presentation because it is easier to read, making participants' contributions clearer, while not changing the meaning of their speech. In the excerpts from interviews used in this thesis, […] denotes that some words have been omitted. I have used italics to show where a particular word was emphasized by a participant. Additionally, I kept field notes, written down immediately after interviews, to keep track of my own impressions of the conversations, and in particular to record visual information and information on changes in tone of voice, or other emotional cues that might be lost in the process of transcription. I also used these field notes to document my own thinking at the time of the interview, as an initial form of self-reflection and analysis.

Transcripts and field notes were uploaded to a QSR NVivo 11 database for analysis. Exploration of the data began with an iterative process of reading and coding transcripts (linking extracts of text to analytical terms), re-reading and re-coding, with the aim of getting to know the data as well as possible. Codes allowed me to make connections within each participant's transcripts. For example, when elements of a life-story were scattered across several interviews, coding allowed me to piece together the parts of the story, and to situate

them in a chronological context. Codes also enabled me to look for thematic connections between participants. I created a hierarchical network of codes from the data. First level codes were based on general themes: for instance 'environment', 'family', 'feelings', 'future', 'politics'. Codes nested within these first level codes were more specific. For instance 'environment' included codes on 'descriptions of belonging', 'relationships with natural places', 'attitudes to natural resources' and 'relationships with wildlife'. I also used keyword searches in NVivo to search for certain cultural narratives, metaphors and framings across all transcripts. My main objective in using NVivo was to become familiar with the data through coding it, and to be able to use codes to find, compare and make connections between different parts of the transcripts. Familiarity with the transcripts gained through this process enabled me to conduct narrative analysis of the participants' stories. At this point, I used a series of questions, which relate to the theoretical context of the study (see Chapter Two) and the aims of interviews (see 6.3.2) to guide my analysis of each individual participant's transcripts:

- How is this participant trying to represent what is important?
- What cultural narratives are reflected in their story?
- How are they constructing their social identity?
- What is the logic, context and integrity of their views?
- How do they story the future?
- How do they story the natural environment?
- What do they see as risky?
- What range of options are within consideration for them?
- How does this participant construct their story linguistically?
- What is hidden?
- How do they represent the 'other'?

Chapter Seven | Stories of the Unconcerned

> Political thought is representative. I form an opinion by considering a given issue from different viewpoints, by making present to my mind the standpoints of those who are absent; that is, I represent them.… The more people's standpoints I have present in my mind while I am pondering a given issue, and the better I can imagine how I would feel and think if I were in their place, the stronger will be my capacity for representative thinking and the more valid my final conclusions, my opinion.
>
> Hannah Arendt (1961: 241)

This chapter presents nine vignettes[1] which are interpretive narratives of each participant involved in the qualitative research interviews for this project. Participants were not representative of the sample involved in the Hobart Values Survey, but were purposively selected for their unconcern about climate change. The vignettes are the product of narrative analysis of participants' interviews, as described in Chapter Six. The vignettes situate each participant's unconcern about climate change in the context of their life-story. They reflect the way participants represented themselves in relation to nature, science and society, and the situated and discursive processes through which they became unconcerned about climate change. A final vignette represents the story of my personal engagement in this research, to be read as a statement of my positionality and agency in the research, alongside the stories of participants.

Through the thesis so far, I have used existing literature and quantitative inquiry to investigate why current forms of communication about climate change are failing to engage some sections of society. In the theoretical section, I developed a critique of scientific and rationalist forms of climate change communication. I argued that these prevailing forms of communication have led some parts of society to lose trust in the systems and practices of everyday life, and other parts of society to protect themselves from such a loss of trust through

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[1] "A vignette is a short description, picture, or piece of acting which expresses very clearly and neatly the typical characteristics of the thing that it represents. […] a short graceful literary essay or sketch" Collins English Dictionary.

varying forms of active and passive unconcern. The vignettes presented below draw out the ways in which individuals avoid or challenge the norms of concern about climate change, and defend their trust in existing ways of life. They also add depth to the quantitative analysis of the Hobart Values Survey, which showed large-scale patterns of values engaged in concern and unconcern about climate change. The quantitative analysis suggested that climate change is seen primarily as an environmental problem, and that unconcern is linked with a prioritisation of either preserving existing social order, or prioritising individualism and free market libertarianism. In this chapter, these values are contextualised through the voices of nine purposively sampled individuals who are unconcerned about climate change.

This chapter explores why current forms of climate change communication have failed to engage these nine unconcerned individuals. While this small sample is not intended to be representative of all unconcerned sections of society, the vignettes are evocative of broader narratives of climate change unconcern within society. The richness of engagement enabled by multiple interviews moves beyond identifying these narratives, as it also lets us see the discursive context that has led participants to adopt these perspectives. By addressing the active concerns and priorities of this diverse group, the vignettes show the ways in which individuals may fit elements of certain often-described social types (such as blue-collar workers, environmentalist greenies, or conservative Christians) but also highlight the variegated, unevenness of perspectives within these groups. Attention to these ambiguities opens up greater opportunity for dialogue, by uncovering unexpected connections, shared narratives, and revealing the unconcerned as networked individuals, rather than monolithic social groupings.

Within the vignettes all participants are referred to using pseudonyms, and the names of third parties who are not public figures, and some place names, have been omitted to ensure participants' anonymity. The vignettes are followed by a concluding discussion of how these participants reflect the demography of Hobart and the HVS sample, and how their narratives relate to the Schwartz (1992) theory of basic human values discussed in Chapters Four and Five, and to existing social types that have been associated with unconcern about climate change.

7.1 The vignettes

Rachel: A bounded world

I thank Rachel for her warm welcome of me into her home and her confidence. Her openness and willingness to reflect gave insight into the boundaries we each use to structure our worlds.

Rachel was born in West Hobart, a suburb close to the centre of the city, and has lived all her 60 years in the same small grid of streets. Her life is lived at a deliberately fine scale. She went to a local Catholic girls' school, and has had three jobs, all in Hobart. In her last job, she returned to her old school in an administrative role, until she retired to care for her elderly mother. She likes living in the neighbourhood she grew up in because "it's just familiar walking around the streets, and comfortable. And yes, you do feel safe. It's just – it's nice to have that safeness." Continuity and feeling secure in her environment are fundamentally important to her, and have led to a life lived within self-imposed boundaries. "I've always been a very safe, secure person. I've always known where I'm putting my foot down. You know, if I lift one up, I know exactly where I'm putting it down." Two of her three adult children have stayed in West Hobart. The third, a daughter, has moved about 10 kilometres (15 minutes' drive) away across the river to G—, and Rachel sees this as a big distance. "Now my children are in my mum's house up in K— [a few blocks away], and our oldest son is in [my husband's] parents' place in — Street [one street away]. Our daughter's in G—, she's gone right away. Pack lunch to go and visit her."

I visit Rachel in her home, almost every fortnight from October until February. Her house has whitewashed walls and there is a wooden sign saying 'The Sandersons' on the door. A pot of magnificently bright orange poppies is displayed in the porch. She often sees me coming up the street from her vantage point at the kitchen window, and opens the front door before I knock. She has a neat but comfortable home, with many photos of her family in frames on the walls and on bureaus and sideboards, and even on the placemats she puts out for our coffee mugs. We sit at the dining room table, in the sun from the window, while her husband potters about the house doing odd jobs.

Though she is not particularly interested in formal politics, Rachel's values are politically conservative, and she has (like her parents before her) voted for the Liberal Party all her life. "I probably have never been a changer, people who swap from one to the other [of the major parties], you know." Consistent with a shared cultural metaphor of the nation as a family, modern Western conservative ideals of good governance tend to be paternalistic – modelled

on the concept of a family with a strict father, who sets rules and is obeyed. Rachel's description of the Australian Labour leader, Bill Shorten, and Liberal Prime Minister Malcolm Turnbull evokes this narrative: "Bill Shorten doesn't do it for me, I don't have confidence in him at present […] Malcolm seems a calmer person, he doesn't seem – I always think of Bill Shorten as a bit agitated and always not calm and just, sort of, taking control." She would like to feel that benevolent, legitimate authorities are in charge, and to be able to trust them to regulate society and maintain a personal and collective sense of security. Rules are to her the boundary between order and chaos.

> You don't want to be a totalitarian state, but when you look at places like Singapore, where it's pretty strict, I think: great place. Love to live there. It's clean. They've got the rules. Everyone abides by the rules because you all know the rules, and so everyone gets on. Maybe it's not such a bad way to go, you know. We're so laid back in Australia: you know, 'oh, whatever'.

Rachel bolsters her feeling of security by ensuring the predictability of her world, circumscribing its edges. She draws comfort from being part of a relatively homogenous social group where "everybody seems to be on the same page about things." She often refers to 'most people' she knows being 'on my level'. She does not explicitly use the term 'middle class' but suggests it through her reference to belonging to a social group who express similar opinions and share similarly moderate living standards.

> I'm just the middle person, I'm not really poor and desperate, and I'm not rich. I'm sort of in that middle, where everything's fine, you can always do with a bit more money, or a bit less, or whatever. And most of the people I associate with, probably are on that middle. And the scale is huge, it's not as if it's a very fine line for being that middle section. And we just seem to, I don't know, be on the same wavelength of what's happening.

There is a sense of virtue in being moderate and middle class – not showing off, or seeking power, but conversely not being needy or powerless. Two of the metaphors Rachel uses to describe the ways in which she fits into her social group (the same page, the same wavelength) evoke methods of communication as central to her idea of community or solidarity – suggesting she feels she shares the same access to information, and interprets it in the same way as her peers.

Several times over our conversations Rachel referred to 'baddies' and to 'good people'. Her apparent inclination is to divide the world according to the moral dichotomy of Good versus Evil. There is often a self-deprecating sense of irony in her descriptions of her reactions and those of others, as though she is implying to me that she realizes that this way of thinking is too simplistic; and yet it still frames her responses.

> [my husband and I] do think sometimes the world is just going downhill, it's just – and then you'll see some conference or some group, whether they're religious or community-minded and you think 'Oh, there are some good people, we can do this, we can get out of this.' We've just gotta keep on going, pushing forward one day at a time. Yes, and hope good will prevail and all of that. Faster than a speeding bullet, blah blah.

She acknowledges the difficulty of applying a good versus evil dichotomy to real world contexts, such as the war in Syria and the conflict with Islamic State (ISIS), and finds this disconcerting.

> There's no rules to this conflict, and I think that's what's so unnerving is that it's not like a war where there were tanks and artillery and Navy. This just has no borders, no edges to it, and so no one knows who the enemy is, and that's scary. So I guess it's anyone who looks – got a long beard and women are wearing a veil – 'Well, they must be the enemy.' And so that's why people are labelling because we need to have something to say, 'This is good and that's bad'.

However, faced with the unknown quantity of the 'other', she would rather protect the security and sanctity of her own world than offer help. She describes feeling overwhelmed by anxiety at the threat of this unknown:

> Someone was talking on the radio today about everyone saying, 'Just totally stop all immigration from Syria,' but as this woman said, 'Look, probably 90 per cent would not be that way. They are true refugees.' But everyone's just got scared now and so it's easier to close your doors and think, 'No. Go away. Don't wanna know about it. Don't wanna' – Fingers in ears, close your eyes [she puts her hands to her ears and closes her eyes]. And you just wanna be safe and keep your family safe.

To wish to 'close doors' to immigrants is counter to Rachel's sense of morality within her own world, where she volunteers her help freely to neighbours and visitors to the state. Her strong

sense of fairness is structured within an us-and-them context, in which the boundaries are the Australian nation-state.

> It worries me that our men are going to be sent over there [to fight in the Middle East]. And it's funny, you see this footage of people trying to get onto trains to take them across to Belgium or wherever in Europe, and you think, 'All those young men getting on the train to escape and we're sending our men in there to fight their battles. Why?' I can understand the women and the children, but the men that looked like they were in their 20s and 30s, they are allowed to leave and our guys have to go in. And I thought, 'That's not fair on our guys'.

As Rachel talks through these issues with me she starts to offer self-reflexive responses which are not prompted by my questioning, but rather by her own reflection on the logic and consistency of her views between interviews. Talking about how she felt when she saw footage from the Middle East on the news, she seems to be struggling to imagine an alien existence.

> When you see the footage on TV it's like Coober Pedy [a desert settlement in South Australia]. The roads, the footpaths, and the hills are all the same, dusty. There's no infrastructure. The footpaths and cars and traffic lights and it's like another planet almost, where these people have lived and grown up. And yet, they all wear modern t-shirts and sand shoes [...] And you think, 'Where are the shops? Do they have K-mart over there? Or Walmart, whatever they call it?' There don't ever seem to be those sort of shopping malls that you see in most other western places.

There is a moral dimension to her interpretation of this difference. Although she has chosen a very locally circumscribed life, Rachel also assumes that her life has global relevance as a reference point by which to judge the lives of others. She describes the lack of western shopping malls as though it is a choice not to comply with what is moderate and normal. But as she says this, she tempers it, as an afterthought, with the qualification that her sense of what is right and wrong may not apply in this different world.

> You can't imagine in this day and age that that sort of existence still happens. That everyone doesn't have bitumen roads and concrete paths and whatnot. It's just – there should be – but that's once again, us trying to tell them how they should live, which is what causes all the trouble.

Rachel's strong need for security is expressed in her desire for a world that conforms to rules and understandings of what is right, what is normal, and what is acceptable. To her chagrin, her husband does his best to disrupt this by "always trying to find the other side of every coin," looking for alternative theories and often playing Devil's advocate. Despite her anxiety that he "is always the odd one out", she echoes many of his opinions – "listening to him has infiltrated into me." Her husband's views have also been honed through membership of a local social group of men calling themselves 'The Sceptics'. When I ask Rachel about her views on climate change, she initially seems to suggest that it is easiest for her to hold the same, sceptical view as her husband:

> I'm in a weird situation; […] my husband is very, very up to date with all things and he really, really, and he has good cases, I suppose, doesn't believe in this – climate change. And he's very much of the opinion that the world will go through all of this and it always has gone through periods where we might have extreme heat or extreme cold or ice or whatever, but that's just the way the world evolves and it fixes itself, and it goes along.

The 'weird situation' she implies is that holding this view puts her outside the norm, and in opposition to the view she assumes me to have, based on our conversations so far. This is an uncomfortable position for her. Having been exposed to the views of both sceptical and concerned scientists, in the media and through her husband's group, Rachel is unable to identify which is the reliable source: "You think, 'I don't know who to believe in'." The thought that the Earth could be materially changed by humans is unthinkably frightening – it challenges her faith, her need for a controlled world, her fear of change and need for safety. The narratives of climate change challenge her need for security and stability, and so she pushes back, saying it is 'blamed for everything', and that scientists contradict each other, and build up the potential danger to be more important, and to get more money.

She acknowledges that people's actions are affecting the environment, and that this creates moral accountability:

> Everyone tries to be responsible, and I think that must help. I know now that plastic bags aren't as easy to come by as they were. The bin that we have under the sink that all the rubbish goes in, I might've emptied it when it was three quarters full and now I have it to the brim where you can barely knot it up.

Rachel's 'everyone' again implies people like her, who have the same level of privilege and the same access to resources. Her sense of her own moral responsibility for others is confined to people like her.

Rachel wants to be able to think of herself as a good person. She seems to feel challenged in this when discussing moral issues in a global context. Throughout our interviews, she sometimes expresses discomfort when I ask about her attitudes to broader, international problems, rather than local ones. For instance, when I ask whether she thinks there should be a global response to climate change, she answers: "I haven't really thought that far, which is irresponsible, I'm sure [...] You know I come away from these meetings [our interviews] feeling terrible, don't you?" Reflexivity about her place in the world, and the responsibilities this could entail, makes her feel as though she is not living up to her sense of herself as a moral person.

Avoiding 'feeling terrible', when you are a kind and sensitive person like Rachel, can require a barrage of psychological defences – such as limiting your responsibility, and employing wishful thinking.

> I suppose half of me thinks it would be wonderful if the world was still okay and it's going to fix itself. And so part of me would like that to be the truth, that we're not ruining the planet with all of our big businesses and so forth, I don't know. Maybe the world does adapt just as humans adapt. Everything that is put into our life, we all pick up mobile phones without giving them a second thought, whereas 20 years ago it was a real novelty, so as we adapt maybe the world doesn't just come on as a mad big hit or something. It's gradually phased in and maybe the world does look after itself and find ways to heal and make things still keep on going. You hope so, that's what I hope so anyway.

Telling this story, Rachel seems to be putting all her trust in existing systems (see Chapter Three), as she tries to persuade herself that the self-healing and adaptive nature of the world will be able to handle the pressures of humanity. Unspoken but implied is some cognitive dissonance – in using the words 'half' and 'part' of me she suggests that the other half does not hope but fears, and is scared to acknowledge the rupture and chaos of a changing world. She never explicitly voices these fears, continuing to talk about gradual and benign change. In relation to our discussion of climate change, Rachel hoped for warmer Hobart, "not like Queensland, or anything like that. […] It'd be nice just to be a couple of degrees warmer all

the time. Wouldn't kill anything, it would just be nice." But she never fully commits to saying that this gradual change is what she actually believes will happen, and I am left with the impression that these are comforting stories she retells to hold back an underlying fear.

Lana: the politics of self-marginalisation

I am grateful to Lana for stepping outside of her comfort zone to talk to me. I realize it was not easy, but that makes it all the more valuable.

Lana arrives at the busy city centre café, where I am waiting. She is a smartly dressed office worker who manages a team in a federal government department, and she is on a tight schedule. She kindly spends her lunch break with me, about once every three weeks, although she is sometimes a little hard to pin down. She orders a bottle of water, but no food – she brought her own and ate it earlier. When the weather is warm, she seems particularly frazzled, as though the strains of office politics are harder to bear in the summer heat. Lana has just turned forty, and is married with a young son. Feeling 'burnt-out' by her job, she hopes to get out of the rat-race by pursuing her passion, which is helping people to eat healthily. She has recently started her own business offering nutritional advice, and plans to grow this so that she can eventually quit the office job. Lana tells me "You know, managing people now, I've been doing it for a long, long time and I'm burnt out from doing it, I just want to do something where people are grateful for your help sometimes." The desire for simpler relationships and more control over her life seem to be strong personal motivations.

Lana struggles to feel comfortable in groups of people. At work, and even in her son's school community, she feels awkward and marginalized – at school "it's like trying to get into a secret society. It's so hard. Like, 'please include me, please let me'." Travelling to busier cities like Melbourne or Sydney is particularly challenging.

> I actually find the big cities quite frightening. I don't feel safe in them. When you get out of Melbourne airport [...] I always say to [my son] when we get off, I'm holding his hand so tightly and I've gone, 'You're not in Kansas anymore Dorothy'. You know you just feel like, it's just so noisy [...] it's white noise and yes, I don't know how to explain but I come back here and you just, feel like there's some weight off your shoulders.

She is happiest at home, in her garden, with just her small family around her. She lives on a five acre property, relatively isolated from neighbours. "I'm only fifteen minutes' drive into

town but people go 'Ooh A—, oh it's so far away'. Yes it is, don't bother coming to visit." There is a sense that she feels under siege by a society that demands too much interaction.

The feeling of being in her own secluded family retreat is very important to Lana. Central to this is being able to grow her own food. "You go home, and I don't know, just to sometimes feel the soil between your fingers and you just go, oh, life's pretty good. And you know, my life is very, very busy, and that for me is my, it's just down time and I really need that." For Lana planting and harvesting food is not only practical but spiritual. She describes the practice with a kind of reverence:

> It's almost bringing you back to where it all began. You know before we had phones, and before you had to go to work, and you know, just simple. I need to go out, I need to grow something, to feed my family. And it's just a very primal thing, that's so simple, but you know that's what gives you, it gives you energy. It gives you life doesn't it?

This sacred quality is embodied in the garden itself, where she describes communing with the spirit of her German grandfather, with whom she was close as a child.

> He was a prolific gardener because he was an immigrant, and he came out just after the war and, set up a big market garden in his back yard in Moonah. And yes I always went to his garden when we were kids, and he'd make us pipes out of the cucumber leaves, and was very involved with me and my brother. And sometimes, I'm in the garden and I feel that little ray of sunshine you know, 'Oh he's there'. And that for me is also about connecting together with my family and my past.

Another important part of Lana's life is having control over what she and her family eat. Her husband suffers from health problems which she helps him control through his diet. The practice of growing, and being able to provide food that she knows is healthy because she has grown it is also important to her.

> We're really quite self-sufficient [...] Like tonight I'll get home at about quarter past five. You know, we'll just go into the veggie patch for an hour or so. Pick what we want for dinner, go inside and say oh look what we've got today, oh well I've got some spinach and some whatever [...] Righty-oh well we'll do some fritters or something. We really enjoy it, all three of us, to do that.

When I ask Lana about the things that are important to her in nature, she focuses on the purity of her environment as health-giving and uncontaminated.

> Lana: I think just the fact that we have got clean air here and clean water [...] I've been to places like China where it's so polluted you can feel it getting through your skin. And you come back here and you'll be like God – we're so fortunate.
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> Chloe: And how does that connect to your wellbeing?
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> Lana: I guess because I have a really healthy lifestyle. If I was to think 'oh look I'm putting all these good things into my body and growing my own stuff', if I had to come in to work and have to breathe in pollution or cigarette fumes or whatever, that would bother me. Because that's something that I can't control. I can control what I put into me but I can't necessarily control what's around.

Lana says that she avoids expressing political views because of her position as a public servant – which, she says, demands non-partisanship. She tells me that she is not interested in news or current affairs unless they personally affect her – she avoids watching the news on television, and although she reads the local weekend paper, she avoids thinking too deeply about issues that she sees as not directly relevant. These, for her, include most of the 'news', which is

> just so not on my radar at the moment, because it's not in my sphere of anything that I can do anything about, and I've just got so much else going on that it's just [...] You know how you've got that whole circle of influence and the things that you can control and you can't? I can't control any of that, so I just don't worry about it, yeah.

The concept of a personal circle of influence presumably comes from Stephen Covey's popular self-help book Seven Habits of Highly Effective People, in which he suggests that energy focused on concerns outside of one's direct control could be better spent on things one can directly influence. This does not preclude engagement with public matters, but suggests focusing on those one has some power to affect. Lana's description of her sphere or circle of influence suggests that she has created her own protective shield of privacy, in which she can feel that the outside world is irrelevant to her, and she is separate from it. In shielding herself from almost all 'news', she withdraws from responsibility from many things that she could conceivably influence. Lana is isolating herself and her family from the rest of the world in a

desire to be private, non-social and free to make her individual decisions. She tells me that despite voting being compulsory in Australia:

> I don't vote. You know what, they've left both of us off the electoral roll. We have put in forms after forms and then I just went 'I can't be bothered about it anymore' [...] It's just not having the responsibility. Yes, we kind of like it. No one can track us down.

This is very unusual in the Australian context of compulsory voting, where citizens can be fined for not voting, and compliance is a social norm. Australian Electoral Commission figures show that in Tasmania more than 96 per cent of eligible citizens were on the electoral roll in 2016. It is particularly surprising that someone like Lana, who works for the government, would avoid this responsibility of citizenship. I interpret this as an active avoidance of social responsibility; she is genuinely disengaged from the political process. Lana does not fit easily into the left-right political spectrum. She has several things in common with environmentalist social identity in Tasmania: she believes in climate change, grows organic vegetables, and her house has solar panels. However, at no point in my reading of her identity do I place her as belonging to an environmentalist social group. Reflecting on this, I realize she has transgressed the expectations of environmentalist identity in several ways. She talks about a love of camping in the wilderness, but in the context of driving a four wheel drive along the beaches of Tasmania's west coast – a practice which has been politicized because of its negative impact on natural and heritage sites, and that is actively campaigned against by environmentalists and indigenous people. Also, by absolving herself from political activity, she takes no responsibility for the public good of the natural areas she benefits from on these trips. Lana's disengagement from local community and from politics also makes her different to environmentalists, as this identity also implies engagement with politics, whether through voting or some form of activism.

Lana believes that climate change is making a difference to her life. "All I know is that this has been a very hot summer and I've been absolutely miserable. I walked to my car last night and I cried when I got to my car [...] I did not live in Tasmania because I like the heat. I was just miserable, I just got home and I was like 'I can't do this heat anymore' [...] It's not for me. Global warming you suck." While she believes it is affecting her, she has limited understanding of what is involved in global warming. "I couldn't speak about it with any aura of any authority. I know a bit about it and the tides rising and that sort of thing – but look

I'm not a science person. I actually don't find it even that interesting to really want to further my knowledge in it." When I ask her what mental images climate change evokes, she attributes a role in climate change to the hole in the ozone layer. "What you think about in Tasmania […] the most is the hole in the ozone layer. Because I think as kids that's absolutely ground into us, put on sunscreen because the hole's right above Tasmania."

She does feel that through her lifestyle, she is taking some action to mitigate change. "We eat clean, we live clean, we've got solar power, we try and live off the grid as much as we can. I'm doing my own contributing to it. I drive a diesel car, which has friendlier fumes. So in a small way I'm doing my bit. What else can I do, you know?" But despite 'doing her bit', ultimately she feels that this is an issue for experts, rather than people like her, to deal with. "I just trust that the scientists are doing their thing because it's beyond my scope, it's beyond what I know." Her boundaries of concern and unconcern are strong, and self-protective. The environmental actions she takes, such as installing solar panels, appear less motivated by personal responsibility for carbon output, than by a desire for self-sufficiency and privacy: to 'live off-grid' in every way she can.

Lana has very positive opinions of scientists, in part because of her experience of IVF, which enabled her to have her son. IVF is the only issue in which she has any desire to influence public decision-making – in light of her own experience, she was moved to sign a petition to object to a proposal to remove funding for IVF from Medicare (public health insurance). Lana's engagement with the IVF reveals a high level of trust in technology and expertise. She feels that the IVF doctors did a better job than nature – because their agency was responsible for the son she loves.

> John is an IVF baby, and that took it back to getting an egg, they picked out, they didn't just put sperm in a dish, they picked out that one and put that straight in. So there wasn't any of that normal nature's selection [...] Someone has chosen the right one instead of nature. I mean they got it right. They did a good job, he is a pretty good kid [...] *That one* out of how ever many million, *that one* looks good [...] other than perhaps his eyes and the fact he likes writing lists, he is all my husband. He is just a mini. We always say there was no mix up at the lab. No mix up at the lab.

Lana often cancels or postpones our interviews. While she willingly signed consent and re-consent forms, when we meet she often seems ill at ease with her decision to be part of my

study. On the surface Lana and I would appear to have a lot in common. We are the same age, and have children just starting school. We both love Tasmania's west coast. But despite our similarities, I never manage to feel a connection with her. I wonder if I would be able to break through the barrier that I feel exists between us if we met in her own space, but my offer to visit her at home clearly causes her discomfort. My perception of her discomfort (together with my worry that she may draw out the process by cancelling more meetings) leads me to offer to finish the interview series at our sixth meeting, to which she quickly agrees.

Neil: Testing one's values

I am grateful to Neil for showing me that someone who might seem 'other' to me in ideology and worldview can also be a deeply moral person.

Neil arrives for our meetings at a café on campus, smartly dressed, always slightly late and in conversation on his mobile. He is an intelligent and politically-engaged science student with an unusual backstory. He was brought up by his grandmother in a tight-knit community of Jehovah's Witnesses, who provided both support and friendship, and set strict boundaries and rules. Neil was not allowed to have friends outside his church, and was not allowed to question any of the rules and beliefs of the church. Two years ago, aged 21, Neil decided to leave the Witnesses. He says that this was because of his ethical concerns about some of their beliefs, such as refusing blood transfusions to sick children, and was in part forced upon him because of his refusal to accept the church's dogma. Joining a political party was for him an act in defiance of their rules, which led to him being 'dis-fellowshipped' – he is now shunned by the community in which he grew up. This experience led Neil to interrogate his own beliefs and morality, and left him with a strong sense of his own values.

Neil is an active member of the Young Liberals, and aligns himself with the socially conservative side of the party – "Tony Abbott [the former Prime Minister, known for strong conservatism and climate scepticism] was sort of like our hero," he tells me. His party membership is not peripheral to his sense of identity – he has thrown himself into the Liberal organisation almost as if seeking a replacement for the structure he lost when he left the Witnesses. When I ask him, in our initial conversation, to show me a photograph that says something about what is most important to him, he flicks his phone straight to a picture of him with his arm around conservative Queensland Liberal Premier Campbell Newman, taken while he was volunteering as a Liberal Party campaigner in that state's election. As our

conversations progress, I find that there are some issues on which Neil has a strong moral position. Other issues which are less relevant to him might lead him to hold views more loosely and playfully, for reasons of political identity, or to take part in the 'game' of politics. He revels in confrontational political debate, and enjoys sparking argument.

> Neil: I guess with any conversations you have with the group of disparate people who will be separate from what you might naturally fit in with, you've really got to choose whether or not you want to have a fight. We had a student politics dinner one time, it wasn't a formal thing, it just happened that everyone around the table was from like either Greens, the [student union], Liberals obviously and yes, in that sort of context [...] everyone sort of has to bring themselves toward the lowest common denominator threshold, if you want to sit there peacefully. But I got bored at the end so I didn't. But for the first hour and a half, maybe for the first two hours, the discussion was very polite [...] But it was just so like, empty. And so [...] Yes. I forget what I said; I think I actually used something on climate change just to [smiles] –
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> Chloe: Something you believed, or something you just thought would wind them up?
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> Neil: Something that would wind them up. I forget what it was, though. Anyway, yes, because the conversation was so dry and it was basically like a what do they call it? Powder cake. So when you eat it, it was like a little bit of flint and bam! Everyone's like at each other's throat.
>
> Chloe:And was that more interesting?
>
> Neil: That was so much better [...] So then we could just have a few drinks and like, get into it.

Despite this cavalier attitude to confrontation, Neil has a strong sense of moral obligation particularly focussed on protecting people without power, such as children, the poor, and refugees. This is not just a theoretical commitment – he volunteers for several organisations involved in helping those in need. Sometimes these moral commitments put him at odds with the Liberal Party.

> I think for every person there are a few issues that you really, like 'absolutely, this is what I absolutely believe' and, irrespective of ideology or what might work in practicality, 'no, these are my views'. And I think most people will align

> themselves with the party that holds those views as well. There are occasionally times when – I mean, like with the, perhaps the refugee thing – initially, when they came out with the 'stop the boats' slogan you know – I was vehemently against that because I thought it was a bad policy, from a moral point of view.

This seems a courageous point of difference for a young person so embedded in conservative party politics to hold. It echoes his refusal to submit to the dogma of the Jehovah's Witnesses – he is not willing to blindly accept rules or policy that are given by his social group. Even in his religious conviction, he declines orthodoxy by questioning the idea of an afterlife:

> When I left the Witnesses, I went through a very atheist-like – I was very attached to the idea that there's only this life and you don't need to worry – there's nothing after death. I believe in God, and the basic tenets of modern Christian belief. I just haven't really got my head around the idea of life after death. After leaving the Witnesses I was happy with the idea that 'this is it'. I think that's probably something that's important to my spirituality personally [...] It's important to live out the values that you believe in because you don't really know what's going to happen later on.

Neil tells me that from his perspective "you inherit a set of values almost when you're born, but the way in which you spend that inheritance changes depending on what your life course is." He describes how experiences like leaving the Witnesses, going to University, and having a friend who identifies as gay have all forced him to question and change his values. These 'tested' values become stronger because they are personally relevant.

> I think values change over time because it's easy enough to say that 'this is something that I believe in', or 'this is a value of morality that I hold to be true', but if it's not tested it doesn't really make any difference [...] If you don't have a chance to exercise something, or if you don't have a chance to question it or – euthanasia is a good one, I guess. Even in my case, it's fine for me to say that I don't believe in euthanasia, I think it shouldn't be legalized, but at the same time I haven't been put in a situation where a loved one of mine is lying in a hospital bed or I haven't been in pain on a hospital bed either. I'd continue on with that particular belief, but again it hasn't been tested, so it doesn't really mean much either way. I think that's probably – until you actually exercise something that you believe in, it doesn't matter.

This relationship between experience and belief relegates forms of experience that are not personal or embodied to lesser importance. For Neil, forms of reasoning such as science or philosophy are thus unable to reach the same level of truth or understanding. This is a reactive form of value creation – Neil does not describe going out to seek ways to test his values, but rather ways in which he has found his values no longer fit his experience, and so need to be adjusted.

When I ask Neil what natural things are important to him, he appears nonplussed: "It's interesting when it comes to nature, I don't really know. I mean, obviously, I think Australia has, especially Tasmania, it's got a whole lot of natural beauty. But I probably don't spend as much time out in it as I should. But yeah, I mean when it comes to the environment, in general, I guess, we all need it, especially things like agriculture and that side of things." Questioned further, Neil did not nominate any particular interest in or connection to nature.

While he tells me that he accepts that anthropogenic climate change is happening, he is guarded in his response: "I do believe in climate change, but I think the climate change is a – I also think that it's a loaded term. And so sometimes you're not going to get the nuance of your idea across by saying 'I believe in climate change'." Neil's transcripts provide insight into the problem created by dominant climate change discourses for someone whose identity is bound to conservative politics. By repeating the storylines of his political discourse coalition unreflexively, he has fallen into the 'ruts' of polarized discourse described in Lucas and Warman (2018).

> Neil: The problem is that if you're talking about climate change and it's a political debate, you've probably got someone from the Greens. And it is inbuilt into our political culture that if the Greens are on one side, the Liberals have to be on the other. So, if the debate is about climate change, you'll hear very [...] eloquent speeches about how it's nonsense.
>
> Chloe: And you think that those speeches are for political effect rather than because that's how people are actually thinking?
>
> Neil: Yeah, I think that's both sides. The way in which it's discussed is publicly, and mainly just politically, but it is a political issue I guess. Whether you're in the Greens, Labor, Liberal, it's all about public perception and trying to stir particular emotions.

Chloe: I'm fascinated as to why it's so divisive.

Neil: Well, it's because it's built around our political court for the moment. Back in the day when it was just Labor and Liberal, I think that it would have been easy to have the debate. But you have the Greens come in, who are fighters, they attack an issue and they tackle it fairly effectively. And that means that, because they don't just fight issues, they also fight parties, that it does turn into a polarized debate.

Chloe: About climate change, is it that it's framed as such an environmental issue, so therefore, it's one that the Greens can really kind of grab onto? If it was framed in a different way, would it be less polarized, do you think?

Neil: It's framed as a left-wing issue. It's advocated by left-wing advocates, and obviously, therefore, their solutions to the problems are – they base them on socialist ideals, like central tax control, that sort of thing.

Neil suggests that aversion to policies such as market regulation, carbon tax and international legislation, which are advocated as solutions in the popular political narrative of climate change, makes it tempting for conservatives to deny or downplay the problem. When I ask what right-wing policies might be able to change this, he points out that the original Australian emissions trading scheme was a conservative policy, but was voted down in part because of our oppositional model of politics, and in part because of hubris on the part of the Greens.

Neil: Well, we have an emissions trading scheme that was proposed by [former Prime Minister] John Howard, which was probably the greatest right-wing leader that we've had. No, not so much whether you like him or not, but he's probably the most prolific right-wing leader. And it was his party back in 2006 that came up with an emissions trading scheme. That's the right-wing way of dealing with the issue.

Chloe: So why do we not have one? What happened there?

Neil: Well, first of all, we lost the election in 2007 to [former Prime Minister] Kevin Rudd and they did put an emissions trading scheme proposal up in Parliament, but the Greens didn't think it went far enough, and the Liberals had just lost an election. So the Liberals just voted against Labor because that's the job of an opposition party, basically, and the Greens voted against it because they didn't think it went far enough. So, we missed out on an emissions trading scheme

> once. They tried it again, the Labor Party tried it again, and the Greens blocked it again. And then obviously, Labor at that stage thought, 'Well we've tried to get this through again, 'cause if it fails the third time, we're gonna have to go to a double dissolution to try to get it done.' So, yeah. It's interesting because, and this is the dodgiest part for the Greens, and I mean obviously I've had a couple of issues. But I mean just an emissions trading scheme, it goes right to the heart of what the party, the rank-and-file Greens membership wanted. They could have had an emissions trading scheme that would have, in their opinion it was a subpar target, they didn't think the targets were high enough. But that scheme would have been up for review four times since then. So, and especially in not this Parliament, but the one just before, they held the balance of power, they could have taken that emissions trading scheme that was already in place and they could have forced Labor to put targets up. So, it would have been an incredibly effective scheme.

On a personal level, Neil's opinion on climate change has shifted with his politics. When he first went to university, he joined the Greens himself, "because that's what all my mates were doing". At that point, he says "I hadn't really looked into sort of the other side of it, and people show you graphs [about climate change] and you tend to just accept that because that's a lot easier than going and actually reading the source material." He tells me that while he was in a Greens planning committee, he decided to check up on the source material for some of the reports distributed by the party. He found that while the original scientific paper referred to suggested three possible predicted scenarios for sea temperature rise in the Pacific, the Greens' report had only mentioned the most disastrous scenario. This may not have been pivotal in Neil's disenchantment with the Greens, but it contributed to his current sense of scepticism around the speed and scale of global warming.

> I don't think that we're good at predicting what the effects will be, and we panic about things that may not eventuate, I think because you had [former US Vice-President] Al Gore talking about how the ice caps were going to be melting and now they're apparently getting bigger than they have been. So, these are sort of the touchstone things like ice caps and massive floods, and stuff like that. And we do see that there are more extreme weather patterns happening now. But again, you're not going to be able to reach sensible decisions or come to sensible conclusions if you're trying to panic at the same time.

When I ask him to imagine the climate in 2100, he says, "I think that it will probably be fairly similar as it is today. I don't think it will be particularly warmer or colder [...] I think there will probably be a few changes in the environment, but I don't think it's going to be disastrously different."

The more I ask Neil about climate change, the more I feel that this is not an issue that has any personal purchase on him. His position on it seems pragmatically political, and unemotional. I am struck by the difference between his response to climate change, and that of some other students I know, for whom responsibility and need for action on climate change is so intensely felt that they occupied the Vice-Chancellor's office for over a week to demand the university divest from fossil fuels. I am reminded of Neil's description of how one's values need to be 'tested' by personal experience before they can be really meaningful. Climate change is not present to him, and has not tested his beliefs. His opinion about it is based on his political identity, and held loosely enough that he feels free to say something inflammatory that he doesn't really believe as part of the political play of polarized debate.

Doug: Not a greenie

My thanks to Doug for his humour and patience with the 'crazy lady' who wanted to know his opinion about everything. He showed me a side to Hobart I hadn't seen before.

I first meet Doug in a Returned and Services League Club (RSL) to the north of Hobart, while looking for people to participate in my survey. He and a couple of friends meet for a beer or two and place bets on the horse races that play on a small TV high in the corner of the bar. Now in his mid 60s but unable to work, this is Doug's main recreation, and he goes to the RSL after lunch most days. After working for a taxi company for many years, his life changed dramatically three years ago when his back gave way suddenly and he collapsed. He has been in fairly constant pain since then, and often in and out of hospital for surgery on his back, shoulders and hips. He gets around on two sticks, but is happiest for us to chat sitting in his car, looking out at the view across Cornelian Bay in Hobart. Over the course of our meetings, the car is swapped for an older, rather mustier model, and Doug's old friend Chris, who I also met in the RSL, dies from stomach cancer. Chris was a fellow Vietnam veteran from Doug's Navy days. While this loss inevitably colours Doug's mood, I sense that the disillusionment he is feeling is part of a broader perception that what matters to him no longer matters to the rest of the world.

Doug's nine years in the Navy are central to his life. He credits the Armed Services for shaping his outlook: "It made you think more. It – probably made you realize what life really was." He was part of a generation of Australians for whom a duty of service in the military was an expected rite of passage. "Everyone in those years, you joined up. It's what you did. Everyone we knew, yes, in the Army, Air Force, Navy [...] Yes, you know, it's as simple as that. No great vocation or anything, you know? It's just what you did. And you come home, and try to get on with your life the best you could." During his time in the Navy, Doug became part of a circle of 'mates' who have looked out for one other for the last forty years. "If we need something we can always arrange to have it done, if it's not actually a close friend it will be a friend of a close friend will do it, that's us that's how we work together and do things."

There are three rules Doug lives by: work hard, respect others, avoid debt. He sees these as values that have been undermined by modern life. "I am like a lot of older people, I don't think things have changed for the better [...] Respect in the world has gone. So, once that goes, we are shot to bits." Doug sees work as inherent to self-respect. In his view, politicians who fail to support or generate jobs deserve no respect, and people who do not work cannot respect themselves. He feels that the millennial generation has lost its way. This feeling is strong enough to make Doug avoid going to the optician to fix his badly broken glasses for over a month, because he hates the thought of walking through Northgate shopping mall:

> Doug: When I go to places like Northgate – this is going to sound terrible – I just think it's a terrible waste for some of the [young] people in there. They're just wasting their lives doing nothing. And feeling good about it. I can't understand that [...] First step they want to do is give their education away and hang around malls. You know, it's sad.
>
> Chloe:Are there enough things for them to do? Why are they doing that, do you reckon?
>
> Doug: Well I don't think they've been given a proper ethic from their parents. I think it's a generation that's lost, I really do [...] But they've got to learn the ethics of life, and the ethic of work. There's no harm in that. No brag at all, my kids work. Even when they're going to university, part time work.
>
> Chloe: To you, what's the importance of working, of having that work ethic?
>
> Doug: I think it's a sense of self satisfaction. I mean, no one's got to look after you. Then you know you've done your bit. You know when you have children you

> know *you've* put clothes on their back, you know you educate them. You know you've done that.

'Doing your bit' implies that by supporting yourself and your family, you are also contributing to the good of the nation – this is a traditional view that was at the heart of the Australian middle class narrative until late in the twentieth century. Doug describes a shift in social values toward 'the almighty dollar', often referring to the power generated by money as a limiting factor in politics and society. "Once some people even went into politics with ideals. They don't even start with ideals now. They say 'I've got to stay here for ten years – got ripping super here, stay ten years I've got three million'. No ideals. Doesn't breed innovative people I don't think."

A lifetime supporter of the centre-left Australian Labor Party, Doug feels that the party has lost its way by failing to defend the values of responsibility and fairness.

> Their ideals used to be good once. But now it appears to have changed, it's still gone more to the top end of town. The top end of town has always had too much to say for itself and the gap's getting bigger. There's no fairness in our system. Any part of our systems, even our legal system is very biased. I mean the top end of town will always win.

While he does not use the term himself, Doug is describing the shift to a neo-liberal policy regime as a turning point when his values suddenly ceased to be part of the political narrative.

> The 80's we were going broke and that's when it started. And then all the clever people got clever ideas, 'we are going to give you less hours work, more leisure'. Terrific. That doesn't work, all they have done is give you less paid hours work, but most people still work more hours, just to keep a job, so to me that's clever for some but not for others, and that I think is a fact.

His disillusionment with a society that values 'the almighty dollar' above all else has led Doug to withdraw from the community to a degree – he avoids people other than his family and close friends: "people leave me alone and I prefer to leave them alone." When I ask him why this is, he says "perhaps I don't trust."

Doug has developed a fairly fatalistic attitude. Conflict, he believes, is central to social interaction, and so war is inevitable: "It's down to human nature. We were built to fight. It's in our psyche. It's in the way we are built, made." He feels his own generation have changed

the world for the worse. "I'm ashamed how we're going to leave this world. I really am. Every time you turn around there's disruption. Our social interaction, I suppose, with the rest of the world's deplorable. What else can I say? It's shameful, what we've done."

When I ask him to elaborate on this feeling of shame, he initially describes social problems, including a culture of racism in Australia. "It's how we treat people, that's the thing. I think it's our actual thought on different race. I mean, one thing about Australians, we're not picky about who we're biased against, we have a go at everyone." Doug's sense of shame is not only about social relations. He goes on to describe feeling ashamed about how the environment has been used by his generation. "I suppose we've raped and pillaged the world, and they're raping and pillaging us at the moment. We're tearing it down." Doug implies that having wreaked environmental damage in other parts of the world, 'they' (the powerful in Australian society) are now destroying Australian environments. "I'm not a greenie, I'll tell you that now, but I just don't like the way we develop, I don't like the way we – and I know there are better ways things can be done." While he clearly disassociates himself from the political side of environmentalism (the 'greenies'), he sees current development of housing, industry and infrastructure as sub-optimal, because it puts profit (for a small minority) ahead of quality (that would benefit the community): "Except the profit margin's not as high if they do it a different way. So not going to change, it goes back to the dollar, doesn't it? You know, when they start ripping out rainforests they start to get a bit crooked I think."

I am interested in Doug's vociferous assertion that he is not a 'greenie', and ask him why he doesn't see himself this way.

> I'd hate to be called one […] I just don't like their politics. I've never seen them come up with a good policy about anything. The 'it all stops here' business – it doesn't all stop there. You can be an environmentalist and still think about the masses. The Greens don't think about the masses. The Greens think about the Greens – whether that's your party or not – youse all do – if you're one of them.

Doug's tone in saying this is highly animated, even somewhat aggressive. I have been careful not to make any statements about my own politics. In retrospect, I wonder if he is placing me in an outgroup to nettle me, in humour (in our interviews he often makes jokes about women as a kind of banter, presumably to provoke a response from me). My British accent marks me as an outsider, and probably as privileged. Maybe he sees me as part of a university-educated elite who put the protection of trees before the protection of workers because they can afford

to. It is also interesting that he separates being an environmentalist from being a greenie – suggesting that it is the political identity of the Greens Party that he (as a 'Laborite') dislikes, rather than the more fundamental values or objectives of environmentalism. The kind of environmentalism he espouses seems to be a dislike of subdivision (residential development) of bush areas around Hobart (which he puts down to developers' greed) but approval of development that would bring jobs to Tasmania. On the Gordon below Franklin dam (a proposed development that galvanized the environmentalist movement to protest in the 1980s – see Lucas and Warman 2018), for example, he says "I believe we should have built it. I don't think it would have done all that much wrong. It would have opened up Tasmania."

Doug tells me he believes climate change is happening, and cites changes he has seen in the Tasmanian bush:

> Yeah, climate change is affecting things, because there's not as much water in the bush [...] More times you see roadkill, that's climate change. Brings them out of the bush. They've gotta come out of the bush. So they're losing something in the bush. Not only water. They're probably losing some of their feed, so they've gotta come out of the bush, so that's when you're gonna see roadkill. More roadkill, different climate change. My opinion. Nothing scientific about it. That to me is common sense, you know?

He also describes bushfire and sea level rise as impacts of a changing climate. However, he feels unable, and even unwilling, to take either personal or political action.

> Well as you know I care about the lives of my family, simple. I believe climate change is happening I don't think I'm in a position to help but there you go, I'm like a million other people, or a billion other people. I believe it's there but until the powers that be want to do something no one can do anything. It's waste of time having protests and stuff like that because that just plays into their hands.

Doug's sense of disenfranchisement – being one of 'the masses' when all the power is at 'the top end of town' has led him to shut off from society, eschewing the company of anyone outside his close family and lifelong friends. He claims not to care about anything but the lives of his family, but the energy and vitriol he puts into criticizing political elites suggests that not caring is a response to feeling powerless. He does get some satisfaction from having passed on his values of work, responsibility and independence to his children, of whom he is proud. However, his expectations are apocalyptic, predicting civil war and doom. At the heart

of this are misgivings about a society based on market consumerism: "We've got to hope that the next generations realize what they've got here [points to an area of undeveloped bush and parkland in the centre of Hobart] and that dollars are not the be all and end all of life."

Henry: Access to truth

I am grateful to Henry and his family for their willingness to open a window into a world of Christian faith. Henry's perception that we share more than we differ, and his open-hearted participation in my inquiry allowed me to glimpse a greater integrity and value in this understanding of the world.

In search of a more wholesome way of life, Henry, his wife, and their young family have recently moved from the suburbs to a rural area on the outskirts of Hobart. However, as he has a regular meeting in a suburb south of the city, Henry and I meet at a small, slightly dingy café, part of a global franchise, in a shopping centre that could be anywhere in Australia. It often seems an unlikely venue for some of the intellectual subjects we cover, and I wonder what the clientele of elderly people, young mothers with toddlers, and tradesmen in high visibility shirts overhearing us might make of our discussion. Each fortnight I get to meet another of Henry's children, as they take turns in the treat of coming along to colour-in pictures and drink 'babycinos' while he and I talk.

Henry is an American who moved here after meeting his wife, who is Tasmanian. He grew up in a right-wing, religious family, and remains a dedicated Christian in the Reformist tradition. As well as home-schooling their growing brood, Henry and his wife are building a Christian hostel for travellers. Every week in the tourist season they host a dinner for guests, after which "we have a little talk about something, about some aspect of Christian truth and then we have a discussion about it. People are free to say whatever they want and disagree."

The concept of Christian truth is the foundation of Henry's worldview. "People have very different values. I put a very high premium on truth. I mean, other people have a higher premium on loyalty or something like that. So if I was convicted [convinced] of something [...] I would pursue that even if it was the minority position, or if it wasn't the favourable thing to do."

Henry's understanding of truth is influenced by his religious belief. He sees truth as both objective fact and moral imperative:

> Sometimes there's this idea [...] that because of the separation between facts and values that religious truth is something more like an ice-cream flavour. That I could go to an ice-cream parlour, 'I like this kind of and I like this, but I don't like that so I won't taste that one.' Whereas historically what we're talking about as Christians is more – there's more similarity between science and religion in the sense that you're saying something objective about the universe. There is a God, he did do these things, it does mean this.

Henry values scientific thought and process, indeed he uses it himself. A commitment to logical thought and use of evidence to support conclusions is a strong part of his way of understanding the world. His definition of faith is "reasonable trust based on evidence". He says that the idea of 'blind faith' in which faith is "a leap in the dark" began with the Enlightenment separation of science and humanities, and does not represent what he means by faith. "The Greek word for faith, the word that's used in the Bible, is the word that means to be persuaded. It means to be kind of convinced by what you see."

Henry tells me that Christian faith and scientific fact were once seen as inseparable: "Medievals didn't see those things as separate. They thought theology was the queen of the sciences, and things very much kind of worked together." The Enlightenment generated what he describes as an artificial separation between faith and fact which is now culturally pervasive. "I think the Enlightenment did us a lot of harm, because it did kind of separate out faith and fact, and very much kind of put science on that pedestal."

For Henry, the privileged perspective claimed by scientists rings false, particularly when it is used to shut down dissenting voices. "Sometimes the way that the scientific viewpoint is put forward, it's very much that like 'We're the high priests, we're speaking from on high'." Henry comes from a Reformist tradition that rejected the necessity of the priest as a mediator between God and the people, so this criticism is made in the context of a cultural suspicion of a hierarchy of expertise.

Henry is committed to sceptical inquiry based on Christian faith. Science is fundamental to understanding, but for him it is not the highest authority. Access to truth in his view is always through God. Therefore it seems hubristic to him for scientists to claim that they alone have access to fact and truth through science, and to claim authority and demand trust because of this process alone. In the Christian tradition, all humans, including scientists, are sinful and fallible. Truth can never be accessed through reason alone. From this perspective Henry's own

understanding of the world is more complete than that of secular scientists because he uses logical inquiry, and also has access to God's truth.

Henry's long view of science through history also jars with the narrative of consensus and unity in an accepted understanding of climate change – the well-publicized finding that 97 per cent of climate experts agree that humans are causing global warming. Henry calls this a "narrow and still legitimately questionable orthodoxy. If the scientific consensus has been wrong for a three hundred year span in the past, it certainly can be so again. Truth very easily may mean siding with the minority and biding time until the tide turns back in the right direction."

Henry's views in part reflect his sense that there is a left-wing bias in current scientific institutions.

> You have a lot of people on the left in academia [...] If you're a smart person and you want to read interesting articles and you want to kind of put yourself in a certain kind of set with other people that are similar to you, you kind of end up I think veering left over time because *The New York Times* is writing these interesting articles and all the satirical television shows in the evening that are kind of witty and smart are of this sort. So you end up in this cohort that's all thinking and acting in a similar way [...] So I do think that there's a politicization of science. My distrust in other areas leads me to be less likely to say, 'Oh, ninety eight per cent says this. Therefore, it must be true.' I'm gonna be more cautious: 'Well what is a climate change scientist, and how do you join that club?'

Henry and his family seem to feel that they are dissenters from many of the cultural norms of Australian society, and that their freedom to challenge or question orthodoxy is often resisted socially and in public discourse. At our sixth meeting, his wife Sarah joins us with their two youngest children. They are on their way to get a vaccination. She tells me of her frustration, feeling that differing scientific accounts of issues such as vaccination and climate change cannot be openly discussed or resolved.

> I probably shouldn't bring this up because it's very controversial, but that [our discussion on climate change] actually reminds me of the way people can't have a conversation about vaccination. I feel like you've got people who are like completely anti the whole concept of vaccination and I have many friends who are like that, then other people who are like, 'What are you talking about?' You

> can't even ask the question. It's just – Not only is all vaccination wonderful, but the government should be able to decide exactly the doses and the schedule. We should never ask any questions.

Henry echoes this frustration.

> I feel like we're in an era where uniquely [...] discussion is being shut down on so many critical issues. Where the thing is, because it's gone from a discussion of the issues, to kind of a discussion about feelings about the issues, so often you can't even have the discussion because we don't want to hurt each other's feelings, and so that's really frustrating too, because if you're kind of agnostic about something and you're trying to understand it you can't – it's hard to make headway.

I wonder if the feeling that it is not socially acceptable to speak their concerns somehow gives them a stronger perception that these concerns are valid. The sense that there is a social conspiracy to avoid conversations about issues like climate change or vaccination could lead one to feel that by being outside of this group, you have greater access to the truth. In other ways too, Henry and Sarah have placed themselves outside the social norms of their society. They read and think deeply about what kind of world they will create for their family, and are cognizant that they are rowing against the flow of history.

> I mean one of the things we're intentionally trying to do is kind of revive an older vision of family. I mean you had until the industrial revolution the family was – the home was very much a locus of activity. That's where the primary centre of industry and a couple would work together on a task and the kids were brought up to follow in the same footsteps. So I mean, whether it was blacksmithing or making hats or being King and Queen or something, I mean it was much more an intentionality of the whole family kind of being in the same line of work. And being at home.

The family enterprise they are creating through their hostel is a form of hospitality mixed with evangelism. Henry tells me of a conversation at one of their hostel dinners where:

> I was sitting at a table with folks from the UK, and we were talking about the purpose of life. Two of the guys started talking about progress, and they kind of held up their phones as like the indication of progress [laughs]. The twentieth century was the bloodiest century on human record, like it was – morally, it's kind of a joke to say that we're progressing, and we're still making incredibly horrible choices.

While he doesn't agree with the modern narrative of progress through growing levels of affluence and technological advances, neither is Henry looking forward to a day of judgment for the wrongs committed by humanity.

> There's some parts of the Christian tradition that say everything's heading for disaster, and we just have to hold out until the disaster and maybe escape the world, which is not our tradition. So we come from a Reformed tradition. You know the Lord's prayer, 'Your kingdom come, your will be done' [...] It wasn't about escaping from the world, it's about living out your purpose in the things you are gifted in, in the world [...] Reforming culture, transforming culture is part of what we're aiming [for] [...] We're not giving up on the world, we're trying to care for the world.

Because he sees humanity as central to God's project on Earth, narratives that pit the development of human society as antithetical to the protection of nature are exasperating to Henry.

> Based on a whole bunch of other previous relationships and my relationship with God and how I believe about the world, I can't accept a view that's very anti-human. So sometimes you get these very anti-human kind of solutions, 'Humans are the problem, they're a virus, let's get rid of humans,' and I can't accept a solution that says that [...] I definitely think that we're in needed in the system to cultivate the Earth, to enhance it. To bring out the best in it, to turn a wilderness into a garden, not necessarily a garden that's inside a fence but cultivate it in a way.

Narratives of over-population, or development that is out-of-control are alienating to Henry, because of his religious belief, and contribute to a distrust of environmentalism.

Climate change, which is primarily framed either as a scientific or as an environmental problem, is inaccessible to Henry from either angle; he cannot trust the evidence of experts who set themselves up as the ultimate authority without reference to a higher power, and he cannot side with a movement that seeks to diminish beings created in God's own image. Neither can he accept the narrative of imminent catastrophe associated with rapid and irreversible global temperature rise.

> Because of my trust, you know, based on the evidence that I do have, in God, as revealed in the scriptures, I don't think [...] that God's going to let the world

> come to naught. So there is a degree of my trust in God that the world's not going to come to naught. Now, I do think that we are responsible, and throughout history and throughout the Bible, you see examples of God giving us the consequences of our actions, we do something stupid, and we reap the consequences. So I don't think it's impossible for us to do something extremely stupid, but I think that He's in control enough that it's not going to go haywire. So I mean maybe that's something that mitigates against me saying the whole world is going to pot, or something like that.

Climate change is not a tangible or urgent danger to Henry. What does concern him, though, is the threat of a 'World War Three' between Islam and the (Christian) west. He brings me an article that has come through his online social network, about Christian missionaries being tortured and crucified by ISIS fighters in the Middle East. "A lot of these kinds of stories are things that are happening in Syria and Iraq, they don't make the headlines, and so you find out about them through the social media and stuff like that." When I ask him how he sees what is happening in the Middle East his first response is not, as I expect, to condemn the violence, but to say that it is the result of a fundamental problem with the Islamic system of beliefs. "I don't know, it's a hard situation. I think that people are being logical, they are following out their beliefs. I just think that there are some things of their beliefs that do create real problems and so, we will pray for them." His understanding of Christianity as the one true religion implies for him that other religions are therefore wrong. For this reason, Henry believes terrorism to be a logical outcome of Islam. This frames the problem as a purely religious conflict, rather than the result of political turmoil. He sees the major risk to humanity being conflict between conservative Christians, like himself, and militant Muslims. "Yes, there are definitely things that are very real, present dangers to us right now. We follow the news about what's going on in the Middle East and things are kind of scary coming out of there." In contrast to his belief in the environmental security of a world that God will not let 'come to naught', Henry's focus on the 'others' of Islam gives him a greater sense of insecurity and anxiety.

> We just kind of encourage, help our girls to be brave in the little things so if things are quite difficult in the future, they might know how to deal with it. Just be ready for that. Because the world is unstable and uncertain [...] Who knows what's coming? Just being prepared.

Oliver: The joy of heresy

Many thanks to Oliver for sharing his political nous and experience, as well as his bookshelf, with another student of life.

Oliver is an ebullient man in his 60s, a raconteur who grew up on a remote farm in Northern Tasmania, and over his life has been a miner, a journalist, and for the last 20 years, a staffer (i.e. a political advisor) for the Liberal Party. He lives with his wife in the outskirts of Hobart, in a spotless and meticulously kept house that seems somewhat at odds with the bark-strewn bushland in which it is set. In their living room, pride of place is given to a large, old-fashioned timber bookcase containing a library of encyclopaedias, books on Aboriginal history, and many other works of non-fiction. On the fridge, next to pictures of their family, a handwritten note reads "Be kind to people, it will make you feel better." I wonder if this is the work of Oliver, or his wife. Family values are important to him, and he mentions his sons, grandparents, parents and brothers in our conversations – but not his wife. Oliver and I only meet at his home once, more often sinking into the leather sofas of a café in a local church.

Of all my participants, Oliver is the most staunchly sceptical about the reality of climate change. He is self-educated and reads widely, and has arguments from the climate-sceptic literature at his fingertips. "You can accuse me of being a complete heretic, but it's driven by money. The international scientific community's got on to something they reckon is a bloody, absolute money-spinner and they're not gonna get off it." He extends the metaphor of heresy further: "From my own perspective climate change seems – It's almost like a religion. You've got to believe because you believe, not because anyone can prove it."

I am unsure of Oliver's own religious commitment. We initially met at a church market, where I was carrying out surveys, and the café where we meet is part of another Christian church, but not, I think, one where he attends services. He never brings up his religious belief in our conversations, which he frames in a strongly political context, drawing on his own experience and reading of political history. One comment he makes about climate change suggests to me that he is not part of a church himself: "I suppose people have gotta believe in something [...] We probably believe less in organized religion and blind belief in something, and the Commies [Communists] have had their day, so this [climate change] seems to me to be the latest 'ism' if you like." I get the feeling that Oliver enjoys being out of step with the majority; that he feels he has a greater ability to see through what has taken everyone else in.

Oliver does not accept the integrity of climate scientists or their processes of research:

> I'm aware of the science that goes in, but the science is that damned dodgy in my view. Well for instance, the Weather Bureau, the Bureau of Meteorology stuff on their temperature figures, where they've demonstrated conclusively they whack this averaging computer program over, and actually change the temperature from the actual temperature recording that was taken [...] Now that to me is extremely dodgy. I can't see how that can work.

He is referring to a process which adjusts data to compensate for the influence of changes caused by weather stations being moved, or from changes to the vegetation around them. This was reported several times in 2014 by journalists for *The Australian,* as evidence of the Bureau of Meteorology 'distorting the data' (Kenny, 2014).

When Oliver describes his reasons for not believing in climate change, I don't argue with his facts or logic, as my interest is in understanding the context of what and how he thinks, rather than trying to change or challenge him. Several of the arguments he gives me against anthropogenic climate change are from people he describes as 'ultimate environmentalists'.

> Rachel Carson is probably the most famous environmentalist of all time with *Silent Spring*, but before she wrote that, she wrote a book called *The Sea Around Us*, and in fact she was a marine scientist, that was her specialty. And she wrote that about 1950 or '51, so 65 years ago, and her contention was that there's a natural warming and cooling driven by the melting and freezing of the polar ice caps [...] a 400 year heating and cooling effect driven by the polar ice cap. And she was suggesting that we were half way through a warming period.

Carson was one of the first popular writers to cite evidence for a warming world, writing several years before the rise in atmospheric carbon dioxide levels was demonstrated by Charles Keeling in 1960. Oliver's use of her work is to argue that if there is climate change, it could be down to natural processes. He also draws on an argument made by Canadian Patrick Moore, "who was a founder of Greenpeace and now drummed out of the organization for heresy. He made a really interesting point by saying 'Well if carbon dioxide's a problem, why is it that every commercial greenhouse operator in the world pumps carbon dioxide into the greenhouse to promote growth?'" The fact that plants grow better in greater concentrations of carbon dioxide is well known. This fact does not constitute an argument against the

existence of anthropogenic climate change, although for some, including Oliver, it may increase hope that these changes may be positive, or at least benign.

Oliver's refusal to accept the basis of the evidence for climate change also seems related to an aversion to mitigation strategies that are unpalatable to political conservatives. He sees climate policies that increase the financial costs of using fossil fuels as a no-win endeavour.

> People might be persuaded to accept the concept of climate change as an abstract but if you then say to them, 'To do something about this in a hundred years, you've got to bloody load up your power bill today', that's when you get the carbon tax reaction from the masses [...] What's it going to achieve? And, if we wind up our costs here enormously, and the Chinese keep pumping out bloody massive amounts of pollution, what benefits the world? [...] So if you extend this argument a bit, say we crank up the cost of power, to achieve some mythical outcome in a hundred years [...] and the Chinese don't do anything, the additional cost on our economy must be a competitive disadvantage against China. So in fact, as well as not achieving anything on a planetary scale, you put yourself behind the eight-ball in comparison to the Chinese.

A fundamental plank of Oliver's thinking is that everything costs money, and that economic sustainability is vital: "at the end of the day the money value rules the world doesn't it?" He does not seem to see economic value as comparable to other qualitative human values like tradition, or equality, or care for nature. To him, economics appears to trump all other values. The value of the environment is an example of this. Oliver sees all Tasmania's old growth forests as a resource, in the same way that vegetables are a resource: they have no intrinsic value outside of the economic value humans place on them. Because of this, he sees protection of Tasmania's World Heritage Area as a huge folly.

> I mean in Tasmania, it's a classic. We've set ourselves up with a monumental national park, but we're totally reliant on the rest of the country to pay for it [...] You can't have every tree on the island always sacrosanct while you're killing potatoes and carrots with gay abandon every year. It makes no sense to me.

However different our outlooks on climate, politics and economy, there is shared ground between Oliver and I – he is a prolific reader, and believes in education and lifelong learning. He is fascinated by the history of the Tasmanian Aboriginal people; in his career he has worked toward recognizing the land rights of indigenous people. Despite his stance on

forestry, he enjoys long walks in the forests and mountain ranges of the Southwest of Tasmania.

I ask Oliver, in the context of his work as a political advisor, what influences political decisions, and what role rational argument plays in comparison to other factors. He tells me:

> I know from inside, decisions are made in all sorts of ways. Not always rationally, and in fact rational arguments sometimes take a back seat. But over time, I think, there was one of those great lines, 'There is nothing more powerful than an idea whose time has come'. Eventually the weight of an argument tends to carry the day. But it tends to be a very long time and in between you get some appalling miscarriages of justice.

If political decisions reflect the outcomes of public discourse, as Oliver seems to be suggesting, then having a robust form of public discourse is vital. He sees universities as pivotal to enabling this: "I think if you're going to have a genuine debate, that's where it needs to be, in university."

This is currently missing, according to Oliver, in what he sees as society's inability to include dissenting voices in the public discussion of climate change.

> I got no academic training at all but I can see the value of education, I can see the value of a contest of ideas. You can see what happened in Greece 3000 years ago, where you had a very small state but because of the contest of ideas, their thoughts were at a stage that advanced so far that we're still using them today.

He has read the work of Bjorn Lomborg, a Danish economist whose book *The Skeptical Environmentalist* ranked issues related to global warming to be of less urgency and importance than a focus on universal human prosperity. As well as providing an analysis of scientific data on climate change, energy, population and biodiversity, Lomborg suggested that policies focussing on reducing poverty through economic and social development would provide better human and ecological outcomes than global reductions in fossil fuel emissions. Lomborg's work is lauded by right-wing politicians, but derided by many environmental scientists, who have accused him of scientific dishonesty (Schneider et al., 2002). In 2014 the Australian Government under Tony Abbott offered the University of Western Australia AUD $4 million to set up a 'consensus centre' under Lomborg's directorship. While it initially

agreed, the university eventually reversed this decision amidst a storm of controversy. Oliver sees this as a travesty of academic freedom.

> You don't have to agree with me, but shutting down, objecting to an alternative view is not good for democracy, not good for the country, not good for the world [...] I mean to do what they've done in Lomborg is to invite retribution on the same scale. You know, 'the bloody Greens and their fellow travellers are putting out stuff that's at odds with mainstream views, shut them down, blackball them' [...] The one thing that I think is really unhelpful is the level of paranoia about someone like Lomborg setting up a counter view. And he's not setting up a counter view on climate change, he's setting up a counter view on where you can get the best value for your investment if you wanna make a difference to the way people live their lives [...] People should be free to disagree and, in fact, encouraged to disagree, I think, and that ought to be the purpose of education.

This is a sentiment that is shared by several of my participants. It may be a result of the overwhelmingly scientific framing of climate change that Oliver can question the science of climate change and thereby avoid dealing with the complex and daunting necessity of social and political change that acceptance of the problem demands. It is possible that approaches that focus on alternative policy approaches to addressing environmental problems might offer more to conservatives like Oliver. Oliver, however, is not sanguine about the likelihood of developing a productive public discourse around climate change. "The more I think about it, Chloe – you know my view of it, but putting aside my view of the world – if you came to me and asked me, 'How do I sell the need for action on climate change to the masses?' The more I think of it, bugger me, I'm not sure you could. I'm not sure how."

Hannah: Grey areas

I am grateful to Hannah for sharing her calm, thoughtful self-awareness, as well as offering me a window into her practice of meditation.

Hannah is a smartly dressed older lady, who – since retiring from her work as a librarian – has never been busier. As well as joining the University of the Third Age (an international movement for the education and stimulation of retired people, also known as U3A) she gives short courses in positive thinking. This is part of her commitment to the Brahma Kumaris, a global volunteer organisation led largely by women, that was founded in India in the 1930s. The Brahma Kumaris (the BKs) aim to enable world peace through meditation and universal

spiritual values. Hannah was born in Hobart, but her husband is German, and they have travelled extensively, living in Switzerland for four years before she had children. Hannah likes to meet me at the university – she seems to enjoy being around students and in a place of learning.

Joining the BKs has been "a mind-blowing experience" for Hannah. She and her husband have twice travelled to India to learn more about the meditative practice that is central to their philosophy. The experience has given Hannah a new perspective on her life and her connection to others.

> Part of it is acceptance of other people, and that comes from an acceptance of yourself [...] Even if you don't particularly like another person, we try and look for their specialities, their good points rather than their bad ones [...] So I try not to get drawn into a conversation where somebody is slating somebody else or, you know, really just make non-committal noises and try not to get drawn into that. So it has influenced me a tremendous amount because, you know, when I was young I would've joined in with gusto, probably [...] I think people sense that and quite often they'll come to you with their problems because they know that you won't judge them and you'll accept them. And that's much more help to them than criticising and telling them what to do. It's really worked out really well from that point of view, I feel. And this has been a journey, of course, over many years. But even though I'm, well I must say I'm old now, 75, you can't say you're young anymore. But you feel that you're progressing along life's journey and that's great.

Hannah embraces views associated with the Left – having empathy for refugees and even Muslim terrorists, and being against consumer culture and materialism; but also has right-wing views – voting Liberal, desiring development in preference to protection of natural landscapes, and being uncomfortable with popular movements against the *status quo*. She herself finds no tension in these different perspectives. That her story does not fit neatly into the accepted narratives of political identity is a reminder of their limitations.

Hannah sees it as a community's responsibility to care for its members – this has financial, emotional and spiritual dimensions. She describes how she witnessed this kind of community responsibility in some of the developing countries she has visited.

> Morocco is a little bit of a more liberal Muslim country but we were taken by local guides into the old cities of Fez and a couple of others [...] We couldn't

> understand coming from our perspective why people would want to live in these very crowded old cities, lots of walls, no parks – to us not very attractive places to live, whereas the more modern parts of the city outside the walls of the old city were really nice, some really old nice houses and so on. But the guide told us that a lot of people preferred to stay in the old city [...] Because they're such a close-knit community, everyone helps each other – they didn't have social services or anything, but everyone helps each other and they have this lovely feeling of community. That really impressed me.

Her travel has led Hannah to question how much personal wealth is important for community well-being.

> When we came back from India, a lot of our friends said to us, 'wasn't it a culture shock, wasn't it terrible to see all that poverty?' I said, honestly, no, because the people were poor, but they were happy and they had a very good support system in their extended families. Everyone had a job to do within the family. They were very friendly. They weren't hostile towards tourists who were obviously better off than them. I came back thinking too, we could learn a lot from them, how to be happy with a lot less instead of chasing after material goods. I'm afraid Australians are probably one of the worst in that.

Hannah feels that people have an intrinsic need to live according to their values, and that a culture of materialism can only mask this need for so long:

> I just wonder if it will reach a point where people will suddenly wake up and realize that all these *things* are not what's going to make you happy, and fall back to something more fundamental. Quite often what happens is there's a reaction after a while, and I think that's what's interesting with this course that I teach, because although people are moving more and more away from organized religion, they're still looking for something spiritual. They're looking for some meaning to life, values which have gone by the board [...] The need's still there, we haven't got rid of it.

Hannah tells me that for her, meditation is "a means to overcome any internal conflict you [have] by using your own resources, and that's so important." Having the ability to look after yourself is important, so that you can be a functioning part of your community. "Really we all need something like that because there's supposed to be about twelve million Australians on anti-depressant medication, it's just horrifying because they think – you know, 'we can't help

ourselves, it's got to come from outside'." From this perspective, the practice of meditation fits well with conservative values of self-control and personal responsibility. Through teaching meditation, she hopes to enable members of her community "to be able to help themselves, and by doing that they're helping other people too."

When I ask Hannah about her connection with nature, she tells me she is a water person. "I love walking along the beach [...] I look at the waves and think, ah, they sort of remind you of eternity. They've always been there; they keep coming in with the tides, something symbolic about water. And my star sign is Cancer, so maybe it's got something to do with it." I picture a crab, living in the intertidal zone – at home both in the wild surge of high tide and the hard dry sand of low tide. This seems rather fitting for Hannah, who inhabits both the world of eastern spirituality and that of western conservatism. Her preference is for European landscapes that have been more clearly 'tamed' than the Australian bush.

> I was struck when I was living in Switzerland, the difference between the feel of nature over in Europe than from here. It's much wilder here and less tamed by man [...] Walking through the forests in Europe – we had a forest just behind where we lived, and it was like walking through a park because there was very little undergrowth; that's just naturally so. Whereas, part of the bush I don't like is where it's more or less horizontal scrub and impenetrable, and somehow it seems a bit menacing to me.

This ambivalence about wild nature seems relevant to her preference for the development of tourist facilities in natural areas such as kunanyi/Mount Wellington, on the Western flank of Hobart. "I don't think that there's enough dev– [laughs] if you want to call it development. Think of it more as infrastructure, things that are necessary." She describes her approval of a plan to build a cable car to the summit of the mountain in opposition to those of the 'greenies' who have 'louder voices' than those of 'the majority'. She associates this with her views on forestry, that "There's got to be a balance – a balance between using natural resources and preserving them [...] Society's still got to run and we still need paper and we need the products from wood, so you can't lock it all away, some of it's got to be available for use."

Hannah's antipathy to environmentalism may be borne of a long view that sees this political movement as a fad, rather than a moral imperative.

> I think our, perhaps our cultural values change over time. When I think back to my childhood no one had heard of natural conservation, really. It wasn't talked

> about. It only came in, it would have been 60s, early 60s, when people started to become more conscious of it [...] Like a fashion, you know, these things come and go, movements and ideas and who knows in a hundred years it might be different again. [laughs] We tend to think that what's happening now will be forever. But it won't be.

Although she is an educated person who actively uses news media, Hannah does not have a clear understanding of climate change. She did not know about the BKs involvement in climate change negotiations as an observer organisation to the UNFCC (Brahma Kumaris World Spiritual University, 1992), and the BKs position on climate change is not her own. She says that she has read about climate change in the news and seen it on television, but she mistakenly equates it with perceptible air pollution, rather than greenhouse gases. And while she has seen air pollution with her own eyes, she describes herself as neither "a definite climate believer or a definite climate sceptic: [...] sort of in the middle."

I ask her what the phrase 'climate change' evokes for her.

> It makes me think of places like China and the really badly perverted places, and I think, you know, our air quality here is just amazing; and in Tasmania, especially. You know, you get off a plane and beautiful fresh air, even though it's cold, and everyone's got their lights on, so it's quite noticeable [...] I definitely think we're undergoing climate change. I'm not that sure about how much of it is influenced by us, by man, because there've been natural fluctuations in kind of over the centuries anyway. And I don't think anyone knows really what percentage is natural and what – I mean, some of it is obviously manmade. If you go to China, you know, that is just horrific [...] We were there about three years ago, and it was only a small tour group but we all got sick, except my husband - he was just about the only one - and you could almost taste the grit in the air and it was just terrible.

For Hannah, the causes of climate change are perceptible and therefore hard to deny. However, because she has not experienced air pollution in Australia, she feels we are less responsible as a nation.

> People keep going on about Australia being the highest emitter; I know it's per capita, but it sounds a lot worse than it is. And I think, you know, even in Europe – we once went, crossed over near Gibraltar, crossed over to Morocco – and when we came down to the sea you could see three layers of pollution and it was quite

> clear-cut. So, you know, we don't have anything like that here so we can't really complain too much!

Her feeling that we shouldn't complain about our lot extends into her personal political engagement. She does not feel that climate change is something people need to engage with as individuals or as part of a group.

> I was invited to go to that thing [a rally against climate change] on Sunday, but [...] I'm not sure where it comes from, and it might be my spiritual beliefs, but I don't like the thought of mobs protesting. To me, it seems a bit aggressive and I'm certainly not for that, and I don't think it achieves very much, really. They say that, ah, you know, we're giving a message, but the politicians have that message already! That's why they went. Maybe it makes some people feel better, but I'm not willing to go to protest marches and wave a banner or something.

Part of Hannah's uneasiness with loud or visible forms of protest may be related to the BK's philosophy that external conflict can only be resolved as a consequence of the resolution of individuals' internal conflict through meditation. The BKs say 'When we change, the world changes'. Hannah tells me:

> This type of meditation is meant to contribute towards world peace, so I tend to sit in meditation and send good wishes to those situations rather than brooding about, you know, how terrible it is and so on. Trying to put some positive vibes out there. A lot of people wouldn't believe in that, but we do, and so that's why I suppose I don't dwell on negative situations, especially ones you can't do anything about. We tend to think of them as waste thoughts.

While joining an eastern spiritual movement could be seen as a very alternative lifestyle choice for Hannah and her husband, this commitment to positive thinking as an almost sacred practice seems to fit well with conservative narratives of self-improvement and linear progress. Hannah herself is comfortable with not fitting exactly into any one social pigeon-hole, and sees great benefit in breaking down social and political barriers.

> I think it's good if the lines of communication can be more open between all points of view and not just separated into two opposing camps. I mean, I think the older you get the more you realize that life isn't black and white, there are a lot of grey areas.

Gerald: Australian norms

My thanks to Gerald for finding time to spend with me when he could least afford it, and for sharing his joy of the sea.

Gerald is a busy man – he runs two small businesses, one in commercial and one in recreational SCUBA diving. I visit him each fortnight at work, in a large industrial shed, where the air is infused by the hiss of compressors filling diving tanks, the vibration of motors and the exhaust fumes of utes pulling in to load and unload. There is a retail shop cubicled off from the rest of the shed, where Gerald props up the counter, periodically taking phone calls or helping customers with wetsuits or dive masks while we talk.

Gerald's career in the diving industry has grown from early experiences in the on the beach and in the sea.

> As a kid we used to go away on holidays to Binalong Bay [...] I have always been a good swimmer, I have always been a water baby, I guess [...]We would hire a shack at St Helens for three or four weeks in the year [...] I'd get up in the morning, take my mask and snorkel and I'd go down to the beach.

His affinity for the sea led him to do a dive course aged 19, and a few years later, a friend asked him to do a day's work with a commercial diving company. "A day became a month, a month became a year and year almost became a decade so we went from there. I have just continued to do it. It's something I have always enjoyed and still enjoy." He shares his love of the marine environment with the next generation of his family:

> I have always loved playing in rock pools, I must admit, although I only have one daughter I have a couple nieces and a couple of nephews and they are all the same age [...] You know it is funny, when you have kids they reinvigorate your childhood within, you can be a big kid again. There is nothing funnier than seeing a 43 year old man fluffing around like a seven year old boy, and you can still get that joy from doing that stuff.

Gerald has worked with marine biologists, and witnessed changes in the marine environment that are due to ocean warming.

> Gerald: I've seen a lot of changes because I've done a lot of work in that space and so doing marine surveys in Tasmania, I've been doing them now for probably 15 years, and you can see from when I arrived here, there's different types of fish that

> supposedly shouldn't be there [...] So, you can see a lot more now, where they'll say, 'Well, this shouldn't be occurring' [...] We may be going through a real cycle of what happens after 300 years, or 500 years. But there definitely has been a lot of change. And it's happening in a relatively short amount of time [...] Only on the weekend, I was diving at the Peninsula, and I was probably diving in the same spot a year ago, and these big surgeons [a type of fish] weren't there, and now they are. And there's certain types of fish that I know aren't meant to be there [...] So it's pushing, pushing, pushing, pushing, pushing.
>
> Chloe: To the south?
>
> Gerald: Yeah, pushing south, that's right. Which means, we're also seeing a change in our normal ecology, such as if I talk about Macrocystis [a large brown canopy-forming marine plant also known as giant kelp] or string kelp, you don't see it as much as you used to. Whereas many, many years ago, it used to be all up and down the coast of Tasmania.

One might expect Gerald's childhood experiences of nature, and his continuing connection with the undersea world to predispose him to be engaged and concerned to protect the environment. Unlike most people, he regularly sees clear, material evidence of environmental changes that climate science has linked to global warming. Through his work, he also has personal relationships with scientists who are studying the impacts of climate change on marine environments. So he has had firsthand access to both the evidence of change and experts interpreting this as evidence of human impact on the climate. However, while he accepts that climate change is occurring, and that it is due to human impacts, he describes himself as only 'a little' concerned. He does not feel that there is an urgent or overwhelming need for him to act as an individual to reduce his impact, or for Australia to take strong action to reduce carbon emissions. While he is aware of shifts in the climate and sees change as inevitable, he doesn't expect climatic catastrophe anytime soon.

> I guess it doesn't concern me that much because you know, I don't think the polar ice caps are going to melt tomorrow [...] I think for what I do and what I can do, it will have very very little impact on a global scale, on a national scale and a global scale. So for me it's going to happen no matter what happens.

Gerald justifies his lack of concern by downplaying the scale of Australia's contribution, and the magnitude of imminent change. At the same time, he amplifies the importance of lifestyle

and economic needs. As residents of a small island in a country with a small population, we have little impact on global emissions, he suggests.

> I guess at the end of the day, look Australia has a big land mass, we have a small population. And we have Indonesia over here, small land mass, massive population. We have China over here, we have India over here and they're all emerging economies, and Brazil and all that. And they are cutting trees down left right and centre, they have got smelter works [...] There is smoke and pollution going left right and centre. Especially here in Tasmania, the amount of pollution we put out is so minimal compared to these other massive countries that what we do here in Australia will have very little effect.

Framing his own, Tasmania's and Australia's greenhouse gas emissions as small, and those of India and China as large, Gerald minimizes his sense of responsibility. He also absolves himself (and Australia) of responsibility for speaking out for emissions reductions, saying: "you can't turn around to another country and say, look at us we're really rich, so you're poor but we don't think you should do that." In Gerald's view we should not begrudge these countries the right to burn coal, because that would be hypocritical given our own history of development, but neither should we take responsibility for the fact a proportion of these emissions come from Australian resources, or are used in the manufacture of products exported to Australia. He does not feel a sense of responsibility for Australia's reliance on exporting pollution for its continuing prosperity.

Despite witnessing transformations to the marine environment due to global warming, for Gerald climate change remains a distant problem which is dwarfed by the other pre-occupations of his life. "At the moment I'm concerned about running two businesses and having a small child and not spending enough time with my family, they're my major concerns. You know, climate change? Oh yes whatever, I've just got to get through life at the moment."

Owning his own home and car is very important to Gerald, as it is to many Australians. He wants to be able to afford a high level of comfort.

> There was a house sold down B— the other day, it's a shack, for a million bucks. It's on the beach. It's nice but not a million dollars nice. We are starting to see house prices similar to Melbourne. And you need to make money, so you can

> afford that. I want a nice house, I'm sure you want a nice house. Or you want to drive a nice car.

By suggesting that I want the same things as he does, Gerald appeals to a sense that this level of wealth and ownership is a norm for people like us, downplaying any sense of excess. Describing a million dollar house as a 'shack' (a Tasmanian colloquial term for a holiday house), he implies that these kind of wants are modest and middle class. They are also, he suggests, integral to the Australian lifestyle.

> I suppose we could change in the fact that we're selling resources to [China and India], such as coal, but then people living in Australia have to have jobs. And let's face it, we do like our lifestyle down here in Australia. We do love toys, we do love to own a house, we do love to have two cars, we do love to go on holiday to Thailand and go, 'Oh, isn't this wonderful? I'll have another cocktail.' So we all have to have work somewhere, and some of that happens from primary resources.

Despite (or maybe because of?) his understanding that he is directly involved in and implicated in the industries and processes that are causing climate change, he says that there is nothing he can do personally that will make any difference.

> One side of me believes very strongly in the environment and the other side of me believes very strongly in making the best of what you've got and trying to use that so [...] Yes look it does concern me somewhat, but what can I do about it, me as an individual? [...] I do a bit of environmental consulting for mining companies you know, [...] coral surveys, fish surveys, things like that, for big mining companies and they've paid me very handsomely to do the work. And I don't care, it pays for my lifestyle quite nicely but at least [...] they are actually doing some monitoring, it's getting paid for by the mining companies, the information is put out there in the public sphere, the universities can use that information to tighten up environmental policies and things like that [...] So someone has to do it, and so yes.

In the context of Australian lifestyles, Gerald considers his desires to be modest. He has a sense of moral high ground in being a 'lifter' rather than a 'leaner'. These are terms coined by the Australian Liberal Prime Minister Robert Menzies in 1943 and echoed by Liberal Prime Minister John Howard in the 1990s. They refer to the contribution made to society by middle class 'lifters' who support themselves economically, contrasted with 'leaners' who rely on social

welfare. Gerald is a lifter in that he feels he contributes more by sending his daughter to a private school than other middle class parents who send their children to state schools. He describes what he sees as the hypocrisy of well off families who protest against government cuts to education funding.

> You see all the people drive around in their Foresters [expensive four wheel drive family cars] with their 'stop school cuts' [car stickers] and all this stuff, and 'we don't have music [lessons anymore because of funding cuts]' but [they are] quite happy to pay $300 a year in school to send [their] child to school. You should be paying more, if you can afford it.

Gerald is keenly aware of the lack of opportunities to earn money in Tasmania, which limit people's capacity to be 'lifters', or else to remain in the state.

> I think Tassie is a unique place and I think it's a fairly safe place. I think it makes a really safe place to grow [up], which is why obviously a lot of my peers, who grew up [here] and moved elsewhere have come back here with their families. Because it's not for the financial gain or even opportunities. There's still opportunities here in Tasmania but they are not as broad as they would be in other states. A lot of guys I know travel for work, we got a phone call from a guy who works for me in the commercial diving, he's off to Western Australia for six weeks now, because big money. He doesn't want to go, but big money. So you can't say, 'can you hang around here for a $1000 a week?', when where you go, you make $1000 a day.

For Gerald it is vitally important that all Tasmanians should have the opportunity to work and contribute economically to society. To him, this means that making use of our natural resources is morally preferable to protecting them.

> I have this mate who lives in Melbourne who says it is fantastic that Tasmania has locked up its forest, it is really, really good. And I said 'Why?' and he said it's great we still have all that forest there, it is there for all Australians. I said 'Yes that's fine, but the rest of us, I have got to live here, I have got to make a dollar. You shut down industries,' I said, 'You can't shut down industry and lock things up so you can sit here in Melbourne and talk about how wonderful the trees are,' I said, 'We have all got to live here!'

He sees marine parks and national parks as preventing people from earning a living from resources that they have a right to as Tasmanians: "I disagree how you have areas they lock

them up and you can't go into them. They're a resource that we all own, whole of the state own it so you should be allowed to access to all those things."

When Gerald describes how much he cares about something, he tends to frame it in economic terms. The economy seems to be his prime framework for describing collective value. This may give the impression that Gerald's values are primarily mercenary, which is not the case. Caring for his family and friends, and connectedness to a large community network are probably the most important things in his life. His pre-occupation with money (and desire for tax reform) suggests an economic conservatism, but he is socially progressive in his concern for marriage equality and increased immigration. His personal politics do not fit neatly into the ideologies of any political party, and this is reflected in his voting behaviour: "I'm a bit of a swinger when it comes to the voting [...] I'm one of those ten per cent who change their mind."

As a Tasmanian, Gerald has benefited from a lifestyle rich in both material goods and experiences of nature which is enormously privileged in global terms. He understands this privilege, as he understands the threat of climate change; and in balance, comfort trumps moral responsibility for Gerald. Gerald feels that this is something he shares with many Australians.

> We'd have to change some of the comforts that we enjoy, like the mobile phones that we all have, or the laptops and all that sort of stuff [...] And so, if we really wanna change climate change, we'd have to lose some of that stuff. Yeah, we might have to go back to one car, we'd have to have public transport. Dear God, I'd have to catch a bus! I couldn't stand it, it'd drive me insane.

Margaret: Taking back her voice

I am grateful to Margaret for her great courage in making the decision to talk with me, and for the trust she showed in sharing her story with me.

Margaret is in her late forties, and works as an in-home nanny for several different families. The nature of her job means she often works long shifts, and odd hours. She cares for very young babies through to primary-school aged children. Some of her weeks are extremely busy, while others turn out to be unexpectedly quiet. We meet fortnightly, when her schedule allows, for a cup of tea and a chat at the tables outside a suburban café. After years of being

subjugated to the wills of others, she is now finding her own voice and her own path in life. It is not easy for her to tell this story, and reading the transcripts of our eight conversations I find it makes more sense as a whole narrative, because the context of Margaret's world became clearer as she came to trust me and gradually revealed more of her life story.

Margaret has always been shy, a trait she thinks she may have inherited from her mother. Her upbringing was secluded, because her parents did not socialize. "They just never had friends. Like, they just weren't that sort of people. So, I had no experience of what it's like to have people come over, or to go to people's houses or anything like that." In our second interview I begin to realize that her shyness is quite extreme, in that she finds it extremely hard to have conversation with adults who are not part of her family.

> Yeah. I guess it is actually a social phobia. And phobias are not rational really, are they? [...] [I] have this continual fear [that] you're sitting there thinking 'She's just a lunatic and she's just talking rubbish', or that when I walk across back to the car, everyone's just going, 'Oh my gosh, she's so fat, why is she wearing that?'

She tells me that her decision to agree to meeting me is so out of character, she says that if other members of her family knew, they would "probably throw a party". "Actually I've only told [my daughter] that I'm meeting you, but I think that if, say, my sister knew, one day I will tell her eventually, when I think of it, like she'd just be blown away. Because it's just such a bizarre thing for me to do." Given her level of shyness, I wonder aloud what it is that made Margaret take this leap out of her comfort zone.

> I was pretty anxious […] because I don't like meeting people at all. I'm really an introvert. I do not like meeting people. I don't like talking to people. I like working with children. I like children. I don't like people. And I was like, 'oh no, I don't want to do it' and then I was thinking, no, I'm going to push myself. It's about time that I started pushing myself.

As I get to know her better, I start to realize that the decision to take part in my research may be a step on a long road of self-development and recovery. She describes living with a fear of strangers using the metaphor of battle – as if she is fighting a constant internal war.

> Margaret: Every day is a battle to – do you find that? That it's actually a battle to – like when you go to uni, so you are in a room with all those people –
>
> Chloe: Only two other people.

> Margaret: In a way that's even scarier. I got accepted into uni and I didn't go, like I was just – obviously I was young, I'd just left year 12, but I was just so scared. And I didn't go, and then whenever I've had opportunities in the past to join classes, I was just too terrified of all these strange people. They're not strange, but strange to me.

It is only in the last few years that Margaret has found her vocation working with children. It has been part of a long journey. "Here I am at 47, and it's only been probably in my 40s that I've started to have a life outside of my own four walls really." As a teenager, she attempted to escape her controlling parents, choosing to marry a man several years older than she was. Even before the wedding, she felt trapped into it. "I was 19 when we got married. Within three months of our marriage he was hitting me. Yet we still had three children, and I truly thought I loved him." Despite feeling caught in a downward spiral, the fear of social stigma prevented her from leaving him.

> You know, my parents didn't particularly like each other, they would fight all the time, but they stayed married. And of course that was the most common thing; you stayed together. I used to be terrified that as a young person I would get married and then have to go through a divorce. To me that was the worst thing that could happen to you. I didn't want that to happen. You take your marriage vows seriously, and being so young you're quite naïve in thinking that that's more important than that you're in this horrible situation. And he was also continually unfaithful and sleeping around, and honestly that was actually worse for me than anything.

Margaret's husband continued to attack her physically, and control her with guilt and threats. They were home-schooling the children, and she did not have a car driver's licence, so she also had the sense of being physically kept at home, where she could be controlled. She did not feel she could tell anyone about her situation. Despite Margaret feeling "very close to my sister, and she had children of the same age so I saw her all the time, and I never told her, at all." Margaret reflected on the extent of her sense of isolation:

> It messes with your head. You no longer think rationally. I always compared it to being like you're under a magic spell. Because you don't have any common sense or any rational thought, because any rational person, if you were in a dangerous situation, you would get out of that dangerous situation, wouldn't you? It's just

> this big web of confusing thoughts, and control, and fear. And of course, if you truly think that you love that person, you are also controlling yourself.

Although she tried to leave her husband twice, her social isolation meant there was no support for her through friends or family, and she was terrified that her children might be taken from her. She did not feel she could access any other forms of support for victims of domestic violence. So each time she returned to her husband.

> I was so shy that I was too scared to leave and go to a refuge. I had such a social phobia that I just did not talk to people. The thought of just leaving and going to this strange place by myself with three children, I just couldn't do it.

Margaret and her husband moved to Tasmania with their three children late in the 1990s, and became part of a small Pentecostal church in a rural area south of Hobart. It was this social connection that enabled Margaret to change her life. She confided in another member of the congregation, who:

> … went and told the pastors, and I met with them, and they said that they would support me. And I said I didn't want to leave, I'd already gone through two separations, and it was too hard, I didn't want to do it. And so they warned him off, and he behaved, for a few months. And then he got stuck into me, again, and it was the worst one that I'd experienced [...] But in this last attack, for some reason – because it's very hard when you're being attacked to be aware of anything else – I just could see outside of the situation, and I could see the girls screaming and crying. They were there watching it. And [my son] was three, and he was standing in the corner of the room trying to punch and kick the air. So he was trying to protect me in his own little way. And I just caught this glimpse of it. And it was just awful, it shattered me to realize what it was doing to the kids. And it was a whole big clandestine thing, I had to send a secret note, because I was trapped at that point, at church to somebody who got it to the pastors, and they organized a big rescue. And they turned up with a few people and a few cars, and whilst the pastor and a few other guys were knocking on the door, were distracting him at the back door, I snuck out the front door with the kids, into a car, and we got away. I stayed away for good that time.

Being a single mother forced Margaret to develop some independence. She decided to learn to drive, so that she could take her children to school, rather than home school them. Her church was enormously helpful in enabling her transition. "My church life definitely made a

difference because everybody believed in me over the years and saw my potential." However, after some years, Margaret began to feel that the control exerted on her by the pastors of the church was preventing her from living according to her own values and beliefs.

> Our church was quite extreme I think, especially being quite isolated, living in the country. Being run by older people who sort of grow up as farmers, so, you know, you've definitely got a lot of traditional things instilled there [...] Bringing your children up in an environment like that, you're going against the grain to take your children to the doctor, to give them antibiotics, to send them to school and not home school, to receive a welfare payment. And it's very hard, it's very hard to just try to do the thing that you feel is best for your child. With all that pressure around you, that you're strange or over-reacting or you're completely doing the wrong thing, it's like – it is actually [morally] *wrong*. And of course getting a divorce was *really* bad. That was a really bad thing that I did [in the eyes of the church]. And then suffering from depression and, you know, eventually going on anti-depressants and things like that were just – really bad.

While she tried to live in the way she wanted – she still took her children to the doctor, and to school, and she still wore jeans instead of long skirts – Margaret feels that the pastors at the church controlled her voice through strong moral disapproval of many things, and a lot of the time it was just too hard to go against the grain. The strongly conservative church leadership opposed environmentalism as, in this former forestry area, it is associated with left-wing radicalism.

> I learned long ago what things you just don't talk about [... environmental issues] Like, the Greens are just absolutely, no ways. You would not vote, back then you would not have voted Green, and if you did, you wouldn't have told anybody. And if you did tell somebody then you probably would have ended up leaving [...] And yes, it's, and it's obviously the same with same sex marriage and homosexuality [...] Like whether there is climate change or not or – I don't even know why they are worrying about that, it has nothing to do with being a Christian and following the Bible [...] And I mean it really did get to that sort of extreme of what to think, and what to wear, and how to do your hair.

Eventually, after 17 years within this close-knit community, and with her children grown, Margaret decided to leave both the church and the area, and move closer to Hobart. The move has been transformative for Margaret – largely because she has finally discovered her vocation in childcare. "It has taken me all my life to find this job that I love. So it is very

special." Working with young children gives Margaret a social status that she has never had in her interactions with adults.

> There is one little girl in particular, she is three and she cracks me up [...] She just becomes a mirror of me or a mirror of her mother and it's when you see that then you realize what an important part you play. Because if they are going to mirror you then you have to make sure they mirror something good.

The values that Margaret hopes to instil in the children she cares for are empathy and kindness: "that is really important to me, to teach empathy. And I like to teach them to, I don't know, just be respectful and you know, have good manners and be thoughtful and […] think about how they use their time and not to be wasteful of food and water."

Margaret's concern for children generates a concern about the future, and this is at the front of her mind as she starts a process of re-evaluating her political values now that she no longer has to conform to the opinions of the church.

> I've always voted Family First [a conservative minor political party linked to the Pentecostal church] because they were the most closely aligned to what I've thought. But then, see, I don't even know how much of that was just what is expected and what's drummed into you anyway at church.

When Margaret completed my initial survey, she responded that she was 'not particularly concerned' about climate change. Re-evaluating this opinion, among the other opinions endorsed by her church, is part of a work in progress as Margaret tries to find her own voice. She is still a Christian, and believes in the truth revealed in the Bible, but now wonders whether there are political, rather than biblical reasons for the beliefs she has been taught to accept.

> It's not like you can look back on the Bible and go, 'God said there is no climate change'. Like that's just, like there is no basis for it. I don't know how it's come about. And then if you try to talk to anyone about it, it'll be, 'well, you know, it's getting to the end times, so this is all going to start happening now anyway'. So it's still just, it's a complete thing of just rubbish. I think that it is getting hotter and I mean it's obvious that it's getting hotter. You just read the, follow the weather pages on Facebook and they say, you know, the stats for this year, like the one we just had, was that it was the hottest year ever.

Margaret's feeling is that Christian churches in general perceive green identity as threatening to their values, and that denying climate change is a response to this. The same, she feels, is true of some politicians.

> I suspect that [former Liberal Prime Minister] Tony Abbott's [sceptical] opinions of climate change are due to his so-called Christian beliefs. Not that that man is Christian in any sense of the word at all, but according to him, he is. And I'd say that that's a lot to do with it [...] So you'll have the Christians against the Greenies sort of thing. And I mean we had lots of people who had come to the church and become members and eventually they would leave because the church was quite vocal in, against climate change, against, you know, anything that the Green Party, really anything that the Greens promoted.

Despite some reservations, it is the Australian Greens Party to whom Margaret is now gravitating.

> I've never voted Green and I'm just about on the verge of doing so. And I'm really not big into politics but just a lot of the – I didn't like some of the things that Greens had stood for, but I'm increasingly finding that more and more of their policies are the only policies I agree with. Like the refugees and that sort of thing [...] I don't really know where I stand with same-sex marriage, I don't really know where I stand on that, because I know that I should believe that it's not appropriate because, you know, I believe in the Bible. The Bible clearly, is clear about homosexuality, but basically for me, it just doesn't even bother me.

The centrality of climate change policy to recent political debate is important to her, because she feels that she needs to understand the implications of her vote. However, her experience of personal conflict also makes her shy away from discussing controversial issues, because "I just crumble. I can't do confrontations." In the case of climate change, she plans to look for more information on the internet.

> Certainly with climate change I need to look into it for myself [...] Simply because I can see that it's getting hotter and I can see that we keep having bushfires and that concerns me. And I don't know whether bushfires are even related to it or not. I don't know. And because, you know, they introduce the carbon tax then they pull it out, so is that a thing that I should be supportive of? So I need to know whether or not I'm supportive of a thing. I need to know whether or not that's a thing that I'm supportive of so that then I know how to vote. Because I

> don't just tick a box when I vote, I like to have some thought put into it. And, yes, I've really, I have just – I have just completely ignored the whole climate change issue because it's so controversial that I have just buried my head in the sand, basically.

Social research often focusses on politics, religion, age, education and earnings as factors implicated in public attitudes to issues like climate change, but is less often able to reveal the impact of stigmatized issues like family violence (Anderson, 2012). It was Margaret's wish that I include domestic violence in talking about how she has come to be the person she is. It has been defining in her life, as it is in the lives of many people. It is an important part of the context in which she makes decisions and holds values and opinions. While in many ways Margaret's story is that of a victim of violence and social control, Margaret has taken back control of her life, and has found ways to overcome her social phobia, first by building relationships with children, but also by making the decision to be part of this research. She is now also involving herself positively in the lives of other victims of domestic violence.

Chloe: What's my story?

How would I describe myself? I am from London. I am a Tasmanian. I live in a weatherboard house on the slopes of kunanyi/Mount Wellingon in Hobart with my husband and two young children. I am in my early forties. I am a PhD student. I am a human geographer. I am a climate change communicator. I care about the environment. I care about my children's future. I care about people having a voice in their community. You may feel you can place me already. What do you think my politics are? What is my class, my religion, my race, my privilege? What is my relationship with power, with science, with technology?

A person's social identity is a jigsaw that we piece together for each person we encounter. 'If she has that piece there, I'd expect her to have that piece there.' It allows us to make assumptions about someone: is she safe to talk to, will she try to impose her views on me, will she judge me by some criteria I don't match? Each of the interview participants in my study was piecing together my identity as I was piecing together theirs. In this vignette, I will try to fit together the edge pieces of my jigsaw, and maybe some of the corners, to help the reader better understand my motivation in this research and my presence in the vignettes above.

I was born and brought up in London, England in an upper middle class family. Both of my parents ran their own businesses, and I went to an academic private school. I studied English Literature at Edinburgh University in Scotland, and then, because of my interest in telling

stories about the world, found work in television production, as a researcher, and subsequently as an assistant producer of documentaries (mainly for the BBC) about a variety of subjects from oil rig disasters to space travel and landscape archaeology. The underlying framing for almost all of these programmes was that science could reveal reality in a way that other forms of knowledge could not. I overcame my (culturally situated) fear of not understanding science, and learned to read and understand technical and scientific literature. My television career lasted about ten years, in what some would call the end of the 'golden age' of documentary production, before programme budgets were decimated by the democratisation of video: most people only had access to four TV channels, phones didn't take photographs, and internet bandwidths were too narrow for video streaming.

I have always felt more at home in environments with obvious natural features – mountains, beaches, forests, reefs – than I did in the city where I grew up. Seeking an adventure, I learned to SCUBA dive in my early twenties, and spent three months living on a beach in the Philippines, surveying coral reefs. This experience was so special that several years later, feeling the need to leave London after a relationship breakup, I decided to travel to Australia to dive on the Great Barrier Reef. I found work as a dive guide on a tourist live-aboard boat, and fell in love with the deck-hand. So I became an accidental Australian, and decided to study for a new career in which being in, and caring for the natural environment was central. The postgraduate course I took was described as 'natural resource management'. During my time at James Cook University in Townsville, I realized that my skills as a communicator could be of great use in managing the relationship between people and natural environments, and so I became a 'science communicator', creating beautiful educational videos, radio programmes, websites, reports, media stories and activity books to encourage people to value threatened species and environments. But while I felt I was doing something good, it was never enough. The Reef was still dying. People were still overfishing, polluting, destroying habitats, and contributing to greenhouse gas emissions as much as they ever did. I began to feel that there was a distinct group of people causing many of these problems, and that none of the communication I was doing had any effect on their thinking. I wondered about these 'other' people – why did they not value the same things I did? How could I influence them to change? Not long after I had my second child, I decided to do a PhD, and this was what I wanted to find out.

Of course my expectations of this 'other' group has evolved over the course of my study, and I went into the interviews with a determinedly non-judgemental frame of mind. Nevertheless,

as I first went to meet my participants, I worried that I might not be able to empathize with, or understand people whose values and priorities seemed, on paper, so different to my own. In their survey results, the values of most of my participants were more conservative, traditional, and materialist than my own. I am not, and have never been religious, unlike at least four of my participants. I am not from Tasmania, unlike five of them, and my British accent (still strong after 16 years as an Australian) marks me as different. I cannot get interested or excited about money or economic issues, and although this may be a result of my privilege in never having to worry about having enough, it points to a different set of priorities to several of my participants.

It was an enormous sense of relief to discover that I actually liked the participants. I found that we did in fact share many things in common. The effect of this has not only been affirming. In analysing how my participants circumscribe their moral choices, I have also gained sometimes uncomfortable insight into the ways I limit my own boundaries of care and action. Like Rachel, I most often inhabit a world in which everyone is 'on the same page' and 'does their bit'. While I spend much of my time in academic contemplation of the ethical choices people make in their day-to-day lives, and have real concerns about the future of our environment, the choices I make are probably not too different to Rachel, or Gerald's, for example – I too bask in the norms of middle-class life, and hope (while I doubt) that things will turn out all right. These boundaries that we create as a society through social expectation and shared experience are subtly attractive – allowing us to carry on with our comfortable lives, pushing those concerns about the impact of our lifestyles gently aside. My range of options is limited by my desire to live a comfortable life. I will not become a politician, or an activist, or live off the land, because I want for my family the advantages that come with a reasonably paid job in a reasonably sized city.

Another reason I live in Hobart is because I think it is less likely than most places to suffer catastrophic changes from global warming. I am in a very privileged position, compared to most people in the world, in being able to choose where I live, and in being able to choose to live here. My fear that climate change will fundamentally change our environment is great. I feel a huge sense of loss for the coral reefs I have known that are already gone, and those that will soon be lost. I fear the impending loss of forests, beaches and wetlands, birds and animals who will not survive the shift we are undergoing. I fear the political impact on our societies. Where will those displaced by climate change go? I am worried that countries like Australia will further shore up their boundaries, defending themselves from an influx of refugees who

have nowhere to go. I am fearful of wars, of anger, of polarization. I fear that my children will be thrown into a new world which is less wondrous, less safe and less predictable than the one I have inhabited.

I started this PhD hoping to find ways to communicate the need for concern and action on climate change to those who are unconcerned. I accepted the aim of climate change communication was to work out better ways to convince people of the truth of climate change, and I felt some measure of righteousness as to the fundamental desirability of this goal. It now seems to me the thing most likely to bring about positive change to societies' impact on the environment is not acceptance of a truth, but empowered discussion and debate between people with diverse views and values. To make this discussion fruitful requires building trusting relationships across difference, and making the boundaries between social groups more permeable. Expressing one's commitment to a 'truth' as the only acceptable way of looking at the world can undermine this, as it reduces the depth and complexity of the identity one presents. I hope that in this chapter I have represented people whose identities might often be reduced to 'climate denier', 'sceptic' or 'apathetic' within the literature on climate change communication as people with complex and profound identities, whose moral choices have integrity in the context of their lives. My experience in this research has also shown me that, by opening ourselves to genuine relationships with people who hold different views, we can see our own views in a new light, creating a potential for transformative insight.

7.2 Discussion: Recognizing the voices

In order to place the narratives presented here in context, this section describes how the interview participants fit within the Hobart Values Survey (HVS) sample and the population of Greater Hobart. It also discusses how much, and in what ways participants' narratives reflect the model of human values associated with unconcern in Chapter Five, and broader social types that have been popularly associated with unconcern. Together, the five male and four female participants are spread across the age ranges represented in the HVS – Neil is in the youngest 18-29 age group; Lana, Gerald, Henry and Margaret are in the 30-49 cohort; Rachel and Oliver in the 50-64 cohort; and Doug and Hannah in the oldest 65+ cohort. That four of the participants are middle-aged echoes the larger proportion of 30-49 year-olds in the HVS sample. It also reflects a larger proportion of this age group in the Hobart population, of whom 21% are aged 18-29, 33% are aged 30-49, 26% are aged 50-64, and 20% are over 65 (Australian Bureau of Statistics 2011). In terms of education, the participants

include three school leavers, one with vocational qualifications, and five university educated. The larger proportion of interview participants with university education reflects the high proportion of graduates who responded to the HVS, but does not reflect the wider Hobart population, of whom only 23% have university education (Australian Bureau of Statistics 2011). Fifty per cent of the residents of Greater Hobart are educated to school leaver level only, and 27% have vocational qualifications. From within the pool of unconcerned survey participants, interview participants were selected to reflect the range of ages and genders in the HVS sample, but the views of these participants are not representative of the broader sample.

In Chapter Five, the Schwartz (1992) theory of basic human values was used to analyse the responses of 522 residents of Hobart, including the interview participants. Low prioritisation of care for nature, together with high prioritisation of traditional values (accepting one's lot in life), high prioritisation of national security and social order, and prioritisation of self-direction were found to be predictors of unconcern about climate change. The participants in this chapter were chosen to be interviewed because of their unconcern about climate change, with the intent to elicit deeper and more contextual understandings of their views. These interviews provide a clearer understanding of the ways in which values are mobilised through the adoption of particular narratives and opinions.

The strongest prediction from the Schwartz model was that people who were unconcerned about climate change would prioritise other values above care for nature. Both quantitative and qualitative datasets point to a strong shared discomfort among the unconcerned with putting the needs of nature over the needs of people, and in particular their own social groups. The interview group reflected this strongly: Neil, for instance, had very little personal connection with nature, and so climate change seemed a peripheral issue to him. While Gerald, Oliver, Hannah and Doug all expressed strong embodied connections with particular natural environments, they each also gave examples of prioritising economic development over protection of these environments. Lana's passion for growing her own food was described in the contexts of purity and cleanliness of the environment and the body, and connection with family tradition – both of these suggest that Lana's care for the natural aspects of her veggie patch is inspired by the 'conservative' group of values on the Schwartz spectrum (see figure 5.1), rather than universalist values. Existing climate change communication was seen by interview participants as all about natural environments – in particular distant and human-free environments such as ice caps, or wilderness areas. All of the unconcerned interview

participants shared a view that people's needs are paramount, whether those people are children, as in Margaret's worldview, Christians in Henry's, middle class people like Rachel, Doug's 'masses', or Oliver's electricity bill payers. Climate change communication that focusses on the effects of global warming on these types of social groups would be more likely to engage them. However, the social groups most at risk from climate change, in less affluent parts of the world, were seen as 'other' by several participants; communication focussing on these groups would be less engaging to them.

The other three predictions from the values model, that the unconcerned are more likely to prioritise traditional values (accepting one's lot in life), national security and social order, and self-direction, are less clearly represented in the interview participants overall. Schwartz' theory suggests that it is unlikely that people will simultaneously prioritise values on opposite sides of the spectrum – so I expected that there would be a clear separation between those who prioritised the conservative values of tradition and security, and those who prioritised the open-to-change value of self-direction. Rachel is an example of someone who fits this theoretical model - she strongly values security and tradition, would be happier in an authoritarian than a libertarian state, and is averse to change. However, some interview participants offered narratives that fit both values of self-direction, and security and tradition. Oliver's economic rationalism and desire for freedom to think differently suggests self-direction values, and yet he also defends existing hierarchies and focusses on issues of national economic security, which suggests that he prioritises security and tradition. Neil describes himself as a social conservative, while simultaneously holding some views that could be described as universalist, and others that appear libertarian, and aligned to self-direction. These examples point to the unevenness of values as lived narratives, and the limitations of quantitative psychological models to represent these ambiguities and complexities.

Unconcern about climate change was notably connected, by each participant, to their social experience. A benefit of the qualitative inquiry is that it shows how abstracted, conceptual values are experienced, and this most often seemed to be through social interactions. It is therefore useful to consider what kinds of social groups were exemplified in these participants. Although this group of unconcerned participants is not representative of all forms of unconcern, they could be seen as representing several often-described social types that have previously been associated with particular responses to climate change communication. Doug, for instance, could be compared to blue-collar workers in the US and UK who historically vote for left-wing or socialist parties, but have moved to the right in recent years in response

to perceived threats from immigration, or loss of industry. Rachel and Hannah might be seen as middle-class comfort seekers of the post-war 'baby boomer' generation, a group who are often blamed for creating generational inequality through over-use of limited natural resources. Henry and Margaret could both be seen as members of the Christian right, while Neil and Oliver might be described as free-market capitalists or economic libertarians. However, the rich qualitative information provided by interview participants shows the wide variety of experiences that make up these categories, and in doing so problematizes the unqualified use of such types in understanding climate change unconcern. It suggests that the contours of unconcern might best be charted not by grouping sections of the unconcerned public according to types, but by following the network of narratives through which unconcern flows within and across different social groups.

Through the development of interpretive vignettes, this chapter has analysed the lived experience of nine individuals who are unconcerned about climate change. It has examined how their personal narratives are situated within broader cultural narratives, and how their social identities may be seen in the context of Hobart, Australia, and other Anglophone western democracies. The vignettes show how current forms of climate change communication have failed to engage participants because they are based on priorities and assumptions that are not shared by the participants. In the following chapters, these vignettes are subjected to further narrative and thematic analysis to draw out recommendations for improving climate change communication.

Chapter Eight | When Climate Change is a Matter of Unconcern: A Qualitative Inquiry

Chloe Lucas and Aidan Davison

Lucas CH and Davison AG (2018) When climate change is a matter of unconcern: A qualitative inquiry. Manuscript submitted for publication.

Abstract

Despite extensive research into public concern about climate change, 'unconcern' about climate change remains relatively unexplored. Interpreted as a lack of concern, this phenomenon is explicitly or implicitly characterized as apathy, ignorance, scepticism or denial, with the unconcerned often portrayed as unwitting victims of their own, or others' biases. Climate change communication aims to maximize public concern and solve the problem of the passively or wilfully unconcerned. In contrast, in this paper, we conceptualize unconcern as a substantive matter, originating in active cognitive, social and experiential processes. We identify the five main explanations of unconcern in climate change research as ideological, group-based, religious, self-enhancing and self-protective. Using narrative analysis of repeat in-depth interviews with Australians who are unconcerned about climate change, we situate engagement with climate change in its lived context. We find that unconcern about climate change typically has multiple sources, takes highly diverse forms, and is entangled in concern for other issues. It is animated by moral values, social worlds and embodied experiences that are overlooked in much existing research. Describing the pitfalls of a 'concern deficit model' of communication, we encourage climate change communicators to employ more self-reflexive and inclusive forms of engagement.

Keywords: climate change, public attitudes, qualitative, communication, deficit model

8.1 Introduction

Climate change communication is widely acknowledged to be in a state of deadlock (Corner and Groves, 2014). Calls for urgent action on climate change are met by increasingly entrenched forms of public and political opposition, deflection or dismissal. The approximate proportion of the global population who do not consider climate change a very serious problem was estimated to be 46 per cent in 2015 (Stokes et al., 2015). While there is evidence

that concern is rising in the United States (US) (Saad, 2017), publics in nations with some of the highest per capita emissions of carbon dioxide – Australia and the US – are among the least concerned, and have the highest levels of political polarization about climate change (Stokes et al., 2015). Research on public attitudes to climate change has typically focussed on ways to increase public concern, which is seen as a precondition to political action (Drews and van den Bergh, 2016; Tjernström and Tietenberg, 2008).

While a sizeable body of research has investigated concern about climate change, there are, to our knowledge, no studies that describe climate change 'unconcern' as their primary object of research.[2] Research on climate change attitudes has explored demographic, political, psychological and socio-cultural explanations for concern. Unconcern has been explicitly or implicitly characterized either as passive disengagement, reactive apathy, or as motivated forms of climate scepticism and denial. Most of this literature is based on quantitative analysis of public surveys, with some use of psychological experiments, or media analysis.

In this paper, we examine why current forms of climate change communication are failing to connect with the unconcerned. We first characterize the concern deficit model of communication that shapes much social research about climate change, before identifying the five main explanations of unconcern advanced by this literature. We then investigate unconcern about climate change through a qualitative lens, evaluating these explanations in light of narrative analysis of in-depth interviews with people from Tasmania, Australia, who are unconcerned about climate change. Through a sequence of interviews with each participant conducted over several months, we situate attitudes to climate change in their lived context. In this storied approach, we focus on the 'matters of concern' (Latour, 2004) that are integral to people's unconcern about climate change. Seeking fuller understanding of unconcern as a phenomenon in its own right, we reflect on the way that framing unconcern as a deficit to be overcome by climate change communication has limited the depth of much research about public attitudes to climate change and reduced the effectiveness of much climate change communication.

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[2] One study (Itkonen, 2015) compares the social networks of concerned and unconcerned facebook users.

8.1.1 A concern deficit model?

The assumption that a lack of concern about climate change reflects ignorance, and that public attitudes to climate change could be brought closer to the prevailing consensus of scientific concern through the provision of scientific information, has been comprehensively discredited (e.g. Evans and Durant, 1995; Wynne, 2006). However, while climate change communicators have moved away from this 'knowledge deficit model', a 'concern deficit model' threatens to arise in its place. A growing climate change communication literature proposes strategies to maximize public concern by solving the problem of the passively or wilfully unconcerned (e.g. Hine et al., 2016; Moser, 2009). Audience segmentation studies describe unconcerned publics using negative terms such as 'indifferent', 'disengaged', 'doubtful' and 'dismissive', and suggest communication tools to shift people out of these undesirable mindsets (e.g. Leiserowitz, Maibach, Roser-Renouf and Hmielowski, 2012; Metag et al., 2017). In much the same way that the knowledge deficit model assumes that greater scientific understanding about climate change is unequivocally desirable, it is becoming normative in climate change communication to take the position that high levels of public concern about climate change are unequivocally positive.

In questioning this concern deficit model we are not seeking to invert the bias against unconcern to argue that it is a social good. In democratic societies, public concern can be a powerful impetus for the political action and social change required to deal with the predicament of climate change (Tjernström and Tietenberg, 2008). However, by framing unconcern negatively and passively, as an absence of care, this model has the potential to contribute to polarizing discourses and policies around climate change. It can lead to the pathologization of unconcern, and thus to instrumental forms of public engagement that support only concerned publics whose interests match policies favoured by those in power (Höppner, 2009). A concern deficit model fails to consider the contexts and agency of individuals who are unconcerned about climate change. Assuming that unconcern has unambiguously negative consequences for climate change action also closes down opportunities for agonistic forms of discourse that have the potential to question existing arrangements and thereby improve climate policy and communication (Pepermans and Maeseele, 2016). In this paper, we argue that climate change communicators may be better placed to facilitate more constructive forms of disagreement, agenda-alignment and coalition-building by conceptualising unconcern as originating in active cognitive, social and experiential processes. In treating unconcern as a substantive matter, we uncover

opportunities to learn more about the norms that have implicitly shaped much climate change communication, and how they may be implicated in the present inability of this communication to effectively engage with unconcern.

8.1.2 Matters of (un)concern

Feminist theorists such as Sandra Harding (1986) and Donna Haraway (1988) have argued for new forms of objectivity in which the omniscient gaze assumed by traditional scientific epistemologies gives way to multiple contested and partial forms of situated knowledge. A connected argument is made by pioneer of Science and Technology Studies, Bruno Latour (2004), who has suggested that there is a pressing need for the modern preoccupation with matters of fact to give way to what he calls 'matters of concern'. Modern epistemologies cede the realm of physical matter to objective description, thereby relegating human values to an intangible realm of subjective preference. In response, Latour draws attention to the way that facts and values are tangled together in lived experience. While scientists, economists and policy-makers work hard to separate out the facts of complex problems such as climate change from their political, cultural and ethical meanings, social responses to these problems resist any such separation. Such problems are entangled with values through their materiality: as Latour (2004, p.245, italics in original) notes, matters of fact are "a poor *proxy* of experience". For this reason, more effective political representations of problems such as climate change – that is, representations capable of building democratic momentum for coordinated action – require analysis of facts to be embedded in their broader context of embodied social practice. Latour's concept of 'matters of concern' draws attention to facts as claims made within experiential social systems that give them power and meaning. As he describes it:

> A matter of concern is what happens to a matter of fact when you add to it its whole scenography, much like you would do by shifting your attention from the stage to the whole machinery of a theatre. (Latour, 2008 p.39)

Much of the literature examining the 'matter of fact' of unconcern about climate change represents it as a problem with specific causes to be targeted with discrete forms of corrective action. The unconcerned are often portrayed as unwitting victims, for instance of denialist marketing, or of their own unconscious bias. In response, we aim in this paper to sketch a wider scenography of the 'matter of unconcern'. Drawing upon narrative analysis of interviews, we ask: how is unconcern about climate change entangled with concern for other issues? How is unconcern animated by values, attitudes, practices and experiences? How is it

enmeshed in social relationships and embodied in the materiality of everyday life? Through this analysis we enable a more complete account of, and potentially a more empathetic engagement with, people who express unconcern about climate change.

8.2 Existing explanations of unconcern

Research on public attitudes to climate change draws on a range of social science disciplines, including psychology, geography, sociology, political sciences, media and communication studies. This literature implicates a variety of interacting cognitive, cultural, social and political processes in unconcerned responses to climate change. The following synthesis is not comprehensive, but provides a novel and broad characterisation of five key explanations of unconcern proposed in this literature: ideological, group-based, religious, self-enhancing and self-protective. These value-laden sources of unconcern are not mutually exclusive; a single individual may manifest a complex mixture of all or several of them. Each source should also be interpreted in light of the spectrum of engagement evident in unconcerned reactions to climate change. High levels of disengagement lead to expressions of unconcern that tend to be uncommitted: described, for instance, as very low levels of concern, or as changeability or uncertainty of opinion; while high levels of engagement can lead to strongly motivated forms of unconcern, such as impassioned climate change scepticism or denial.

8.2.1 Ideological sources of unconcern

Surveys of public attitudes to climate change in the US from the 1980s show that it was originally a bipartisan issue, with concern spread evenly between Democrats and Republicans (Carmichael et al., 2017). However, since the mid 2000s, political affiliation has become an increasingly consistent predictor of concern and unconcern about climate change in the US. People who support right-wing parties are more likely to be unconcerned about climate change, unsupportive of climate policy, and sceptical of climate science than those on the Left (Dunlap and McCright, 2008; McCright and Dunlap, 2011a). This pattern has also been found in the UK (Poortinga et al., 2011), Canada (Rabe et al., 2011), the European Union (McCright, Dunlap, et al., 2016), and Australia (McCrea et al., 2015; Tranter, 2011). Although some studies suggest this polarization may apply predominantly to western democracies (McCright, Dunlap, et al., 2016), there is some evidence it may apply elsewhere (Capstick et al., 2015).

Research into political polarization about climate change has directed attention to ideological sources of unconcern (e.g. Häkkinen and Akrami, 2014; McCright, Marquart-Pyatt, et al.,

2016; McCright and Dunlap, 2011a). A political ideology is "a set of beliefs about the proper order of society and how it can be achieved" (Erikson and Tedin, in Jost et al., 2009b p.309). Ideology is typically classified on a left-right continuum, where values of 'conservatism', 'order', 'individualism', 'capitalism' and 'facism' are associated with the Right, and values of 'equality', 'progressivism', 'radicalism', 'socialism' and 'communism' are associated with the Left (Fuchs and Klingemann, 1990). In surveys of public attitudes to climate change, people who place themselves on the right side of this continuum are more likely to be unconcerned (Häkkinen and Akrami, 2014).

Both psychological and socio-cultural studies suggest that reliance on existing social systems for security, reassurance, and stability is particularly important for people identified as being ideologically on the Right (Jost et al., 2009a). Psychological studies find that this reliance generates system-justifying tendencies which are associated with unconcern, including denial, of climate change (Feygina et al., 2010). Studies based in human values theory (Schwartz, 1992) and cultural theory (Douglas and Wildavsky, 1982) similarly find that the 'conservative' values of tradition, conformity and security are associated with climate change unconcern (Aasen, 2015; Author, 2018), including climate denial (Kahan, Jenkins-Smith, et al., 2011; Poortinga et al., 2011), as well as lack of support for climate policy (Dietz et al., 2007; Drews and van den Bergh, 2016). These values involve opposition to changes to the social *status quo*, and the need for hierarchical systems that enforce rules, social order and obedience.

Conservative values are central to the lives of participants in Hochschild's (2016) sociological study of the working-class Right in the US. These participants express a desire for small government, low taxation, no regulation and no welfare, even if this is seemingly at their own expense. Hochschild describes the 'great paradox' of this worldview: people suffering from industrial pollution of their environment desire deregulation of industry and weakening of environmental protection. They are also unconcerned about climate change, despite personal experience of increasingly severe hurricanes and sea level rise. While left-wing progressives find this paradox hard to fathom, Hochschild describes it as part of a worldview stemming from different understandings and practices of care, dignity and honour. This is also noted by Lamont (2009), whose ethnographic research in the US finds that working class people increasingly define themselves according to moral, rather than economic or educational, standards. This group prioritize hard work and traditional values of security and conformity. Fathers demand respect and see themselves as protectors of and providers for their families: government welfare and regulation are seen as getting in the way of this role, thus

undermining the dignity of these men. According to George Lakoff (2002), family values have become central to how people think about political values. People on the Left have a cultural view that valorizes nurture and care of others, both in families and in governments (Lakoff, 2002). It is considered morally good, in this worldview, to support people financially and protect the common good through environmental laws and regulations. On the Right, however, self-discipline, and the freedom to make your own way is seen as morally preferable to being cared for and protected. State-sponsored social welfare is looked upon as weakening society and corrupting individuals. So Hochschild's interviewees support polluting industry, despite its clear and personal impacts on them, because it empowers, enobles and frees them through providing livelihoods.

8.2.2 Group-based sources of unconcern

Another explanation of the partisan divide on climate change is that people expressing unconcern about global warming do so on the basis of the social groups to which they belong or with which they identify. This may take the form of relaying and rehearsing the opinions expressed by right-wing political leaders and influencers (Carmichael and Brulle, 2016; Guber, 2012). The uptake of these opinions depends on how much people identify themselves as belonging to the same social group as the messengers. Partisan media coverage is implicated in increasing polarization of social groups who identify with political parties (Farstad, 2016; Hmielowski et al., 2013), as are the narratives of a 'counter-movement' of right-wing think tanks funded by carbon-intensive industry to undermine consensus and elevate perceptions of scientific uncertainty about climate change (Jacques et al., 2008; Oreskes and Conway, 2010).

Group-based belonging and identification may also take the form of conscious or subconscious efforts to retain the benefits of belonging to a social group, and avoiding the risks that may come with being excluded (Kunda, 1990). For example, people who wish to be aligned with Republican politics in the US have strong incentive to avoid concern about climate change, as this issue has become an increasingly non-negotiable element of Republican identity and affiliation (Hart and Nisbet, 2011). While ideology may play a role in group solidarity and difference, group-based unconcern relates primarily to processes that can be described as forms of tribalism. Opinions about certain issues are bundled together as markers of belonging to a particular group: thus to belong to the right-wing Tea Party movement in the US one might be expected to oppose such diverse issues as abortion, gun laws and action on climate change. People who feel strongly about only one of these issues

may voice the group-majority opinion on others in order to feel they belong and are accepted by the group (Nelson and Kinder, 1996). Concern about climate change is seen by some members of right-wing groups as an identifier of outgroup status, and so it is associated with negative affect (Iyengar et al., 2012). This leads to increasing polarization between the Right and Left (Guber, 2012), and the Right and environmentalism (Hoffarth and Hodson, 2016). It is likely that the effects of values, elite cues and group identity work together to buttress unconcern (Bliuc et al., 2015). Equally, it can be assumed that group-based processes within the political Left may mask or dampen expressions of climate change unconcern, as concern about this issue is now a keystone of left-wing identity. Certainly, van Prooijen et al. (2015) found that people on both the extreme Left and extreme Right experience heightened fear of change in comparison to moderate groups, along with a tendency to 'other' those outside their social group.

8.2.3 Religious sources of unconcern

Politically conservative worldviews often overlap with religious belief. Certain forms of religion, particularly Christian faiths that interpret the Bible as literal truth, have been associated with unconcern about climate change (Morrison et al., 2015; Truelove and Joireman, 2009); although others suggest that religion is secondary to ideology in mediating unconcern (Smith and Leiserowitz, 2013). However, several aspects of religious faith have been implicated in unconcern about climate change. Theologies describing climate as created and controlled by a higher power can lead followers of these religions to feel that humans have limited influence on the climate, or that any influence they do have is bestowed upon them, leading them to doubt anthropogenic causes of climate change and to reduce their sense of personal responsibility (Wolf and Moser, 2011). Some religious people may feel that they have special protection from any effects of climate change due to their relationship with an omnipotent God (Mortreux and Barnett, 2009). Theology describing end-times in which all life on Earth will cease has also been identified as a source of unconcern, because environmental destruction is seen as an inevitable sign of a pending day of Judgement that heralds the on-going existence of the righteous in an eternal afterlife (Barker and Bearce, 2012). Other studies have suggested that the Christian doctrine of human dominion over nature is implicated in unconcern about climate change (Hand and van Liere, 1984; Morrison et al., 2015).

8.2.4 Self-enhancing sources of unconcern

Another set of explanations for unconcern about climate change involve the prioritization of individual aspirations and goals over collective concerns. This can reflect a 'finite pool of worry' (Pidgeon, 2010; Weber, 2006), in which day-to-day concerns crowd out what appear to be more generalized and distant worries such as climate change, leading to disengagement from this issue. However, this can also reflect self-enhancing traditions such as liberal individualism that motivate engaged forms of unconcern. Individualism implies the prioritization of personal autonomy and freedom of choice, as well as personal responsibility (Realo et al., 2002). Many people with strong individualist views support the free market as an arbiter of societal decisions, and oppose government influence over individual lives through methods such as taxation. Individualism has been associated with unconcern (Aasen, 2015), lack of support for climate policy (Drews and van den Bergh, 2016), climate scepticism and denial (Kahan, Jenkins-Smith, et al., 2011). This may also be related to 'solution aversion', as many of the most often discussed actions to mitigate climate change, such as international regulation and taxation of carbon emissions are counter to liberal individualist perspectives (Campbell and Kay, 2014; Prins et al., 2010). Other self-enhancing values focus on individual goals, such as public status, private wealth, and personal authority and influence. In human values theory (Schwartz, 1992), values relating to self-enhancement are opposed to those relating to self-transcendence. Several studies using human values theory have found that self-transcendent values including care for others and for nature, are associated with support for climate policy (e.g. Howell and Allen, 2017; Nordlund and Garvill, 2002). Given that self-enhancement values are opposed to self-transcendent values in the human values model, most of these studies find a negative effect of self-enhancement values on support for climate policy. we might infer that unconcern about climate change would also be related to the prioritization of self-enhancement values over care for nature and care for others.

8.2.5 Self-protective sources of unconcern

Other studies of climate change attitudes have examined the way people may actively close their minds to concern about climate change as a defence against the perceived enormity of the threat and/or the response required. Apathy – the suppression of emotion or refusal to experience pain – may be one such response. Randall (2009) points out that there is an asymmetry between catastrophic warnings of imminent climate change impacts and the small positive steps for individuals suggested by the climate change communication literature. This dissonance can lead to overwhelming feelings of helplessness and loss. These feelings cause

people to try to protect themselves through denying responsibility, asserting the insignificance of their personal or national contribution, pointing to the inaction of others, claiming ignorance, believing that it is inevitable, or hoping that technology will fix it (Norgaard, 2011; Stoknes, 2014; Stoll-Kleemann et al., 2001). Unconcern about climate change is also connected with political disengagement and loss of trust in government (Pidgeon, 2010; Whitmarsh et al., 2011). Feelings of distrust in social institutions, lack of self-efficacy, and fear can lead to fatalism (O'Neill and Nicholson-Cole, 2009). Fatalist worldviews are pessimistic about the future, and often misanthropic, denying responsibility for the environment by framing it as unpredictable, uncontrollable and resilient to human activity (Corry and Jorgensen, 2015). People may also defend themselves against concern about climate change by interpreting the issue as remote from themselves, being distant in time and space, separate from their social reality and varying in certainty (Devine-Wright, 2013; Spence et al., 2012). In contrast, threats to the socio-technical systems and practices of everyday life often generate strong affective responses (Lucas et al., 2015), particularly among people who rely on the stability of these systems for ontological security (Giddens, 1991).

Norgaard (2011) describes disengagement as a collective process rather than an individual response – what she calls the social organisation of denial. Within this process, information about climate change, or actual changes to the climate, are disregarded because of socially defined limits to perception, attention, memory and concern. In this way, members of a society shield themselves from unwelcome responsibility. In a world in which climate change is linked to every aspect of modern lives, Norgaard (2011: 221) explains climate denial as "a consequence of a world in which boundaries that once existed are collapsing. It is a world where a sense of security and order – if they are to be achieved – must be reasserted through cultural practices as well as through physical walls." One such cultural practice, as Hochschild (2016) also notes, is active silence on environmental concerns. Implicit cultural decisions to shut out climate change from conversation or debate, or to relegate it as one amongst many similar peripheral issues that clutter news bulletins, may be socially motivated and organized, but on the individual level can look a lot like disengagement.

8.3 Method

As Capstick et al. (2014) point out, changes to social understandings of climate change do not occur in isolation, but as part of larger patterns and processes of social transformation and environmental change. Quantitative studies have been invaluable in providing snap-shots of

social attitudes. However, in-depth qualitative research is required to shed light on the broader dynamics in which these attitudes are situated by exploring the relationships and tensions between individuals' specific views, their cultural positioning, and their lived social worlds of practice (Carolan, 2010).

The participants for the study we report here were initially engaged through participation in a public survey called the 'Hobart Values Survey' (HVS) we conducted in April-May 2015. The non-probability sample of the HVS comprised 522 adults from Hobart, the capital city of the state of Tasmania, Australia. The survey was presented as a questionnaire on values, priorities and views on social issues. Questions about climate change were presented amongst a wide range of other issues, with the intention of avoiding particular focus on climate. In a Likert scale (1-6) question asking: "How concerned (if at all) are you about climate change (also known as global warming)?", the large majority (84 per cent) of survey participants responded that they were 4 (somewhat), 5 (very) or 6 (extremely) concerned about climate change. For the qualitative part of this study, we were interested in those who had responded that they were 1 (not at all concerned), 2 (not particularly concerned), or 3 (a little concerned) about climate change. By recruiting nine people ranging from the completely unconcerned to those who expressed 'a little' concern, we sought to include participants expressing both motivated and disengaged forms of unconcern. A strength of this method is that it captured people not easily or commonly engaged in public attitude research: the unconcerned, rather than those who are concerned and therefore tend to self-select for interviews. Seven participants were interviewed by the first author eight times each, at approximately fortnightly intervals, over the space of six months; one participant was interviewed six times, and one seven times. The method of inquiry was designed with the intention of developing trusting, empathetic relationships with participants in which they were comfortable sharing not just information about their concerns and attitudes, but in offering insight into how and why they lived their lives. Interviews first centred around immediate life concerns and values, before broadening out to global issues. The interview series enabled a process of sequential disclosure of the aims of the study to participants (see Chapter Nine). Climate change was first introduced as a subject of discussion in the fifth interview, and was explained as the focus of the research in the sixth.

Our method draws on narrative inquiry, seeing people's representation of their experience and identity as 'storied'. Clandinin and Rosiek (2006 p.42) describe narrative inquiry as:

> An exploration of the social, cultural and institutional narratives within which individuals' experiences are constituted, shaped, expressed and enacted – but in a way that begins and ends that inquiry in the storied lives of the people involved.

Within each person's story, personal values and cultural norms interact. Metaphors, symbols and stories that have cultural currency are re-told and re-contextualized from within the perspective of individual lives. Through the ways people narrate their lives, perceptions of the past and future, private and public, immediate and distant are brought into relation, shaped and re-shaped and given "meaning, value and autobiographical justification" (McAdams et al., 2008 p.979). By moving over an extended time from personal, to local, to global concerns, and from personally held values and commitments to publically controversial issues, we were able to explore the underlying context and reasons for responses to issues of climate change. The process of talking (and reflecting on these discussions) about their lives, values, commitments, worries and experiences was for our participants an opportunity to become more aware and articulate about their frameworks for life-decisions.

8.4 What matters to the unconcerned

Our group of nine unconcerned participants – five men and four women - ranged widely in age (21 to 75 years), education (incomplete secondary education to postgraduate university education) and employment (student, public servant, childcare worker, Christian minister, retired school administrator, small business owner, retired librarian, incapacitated taxi driver, political advisor). Each participant had a different story, and different reasons for their unconcern about climate change. We have chosen to represent three narratives in detail, to enable depth of discussion, and to better explore how these textured accounts of lived experience illuminate the explanations of unconcern in the literature.

8.4.1 Paddling against the current

Rachel is a smartly-dressed retiree of sixty. She lives with her husband of many years, with whom she has three children, in the well-to-do neighbourhood where she has lived all her life. Although not particularly interested in electoral politics, Rachel's values are conservative, voting all her life (like her parents) for the (centre-right) Liberal party: "I probably have never been a changer, people who swap from one to the other [of the main political parties]." Rachel is anxious to maintain social stability, predictability and certainty: "I've always been a very safe, secure person. I've always known where I'm putting my foot down. You know, if I lift

one up, I know exactly where I'm putting it down." This has led to a life lived within narrow geographical and social boundaries.

Although a consummate risk-avoider, Rachel is unconcerned by claims that climate change is the greatest threat currently facing humanity. To make sense of this apparent paradox, we need to understand Rachel's matters of concern. Rachel sees herself as a moral person. She has good reason to do so: she looks after her family and friends and volunteers her time to help in the community. She describes herself as "the peacekeeper in the family". Within her world, she seeks to be fair, upright and caring. But being asked to contemplate global problems such as war, terrorism, internet fraud or human impacts on the environment makes her deeply uncomfortable, because it challenges her sense of herself as a moral person. Asking her opinions on these issues makes her feel 'irresponsible'": "You know I come away from […] [our research interviews] feeling terrible, don't you?", she says.

Rachel is engaged in a constant and active effort to maintain her *status quo*. Thinking about complex global problems destabilizes her emotional need to live in a benign, secure world. Her sense of security relies on belonging to a social group where people have similar attitudes and similar incomes. It is particularly important to her that she is "on the same page" as those around her. Fearing conflict of opinion, she avoids controversial topics. However, she has a lively social life and is actively engaged in her community, hosting barbecues and participating in local government committees. She locates herself in a moderate majority of people with similar opinions and living standards.

> I'm just the middle person, I'm not really poor and desperate, and I'm not rich. I'm sort of in that middle, where everything's fine, you can always do with a bit more money, or a bit less, or whatever. And most of the people I associate with, probably are on that middle. […] And we just seem to, I don't know, be on the same wavelength of what's happening.

Rachel articulates virtue in being moderate and middle class – not showing off, or seeking power, but conversely not being needy or powerless. Rachel's strong need for security is expressed in her desire for a world that conforms to rules and understandings of what is right, normal, and acceptable. She would like to feel that benevolent, legitimate authorities are "calm and […] taking control". Rules are to her the boundary between order and chaos.

> You don't want to be a totalitarian state, but when you look at places like Singapore, where it's pretty strict, I think: great place. Love to live there. It's clean.

> They've got the rules. Everyone abides by the rules because you all know the rules, and so everyone gets on.

Desiring clear boundaries between what is good and bad, Rachel sees Australia's role in international conflicts as being on the side of 'the goodies'. While she accepts that Western intervention in Iraq, for example, has had negative outcomes, she focuses on the 'good intentions' behind it. It is important to her that the social groups in which she invests her identity (for example Australians, mothers, Catholics, the middle class) have moral integrity, and that their actions can be justified. Because she identifies her own social group as good, she tends to see those outside this group as morally 'other'. Describing the war in Syria and the conflict with ISIS, she says:

> There's no rules to this conflict, and I think that's what's so unnerving […] This just has no borders, no edges to it, and so no one knows who the enemy is, and that's scary. […] that's why people are labelling [others according to their appearance] because we need to have something to say, 'This is good and that's bad'.

Unlike many on the political Right, Rachel does not have an individualist worldview – she would rather live in a highly regulated society. Neither is she motivated by self-enhancement – she would rather maintain stasis than increase her social or economic standing. As a practising Catholic, and a Liberal Party voter, her unconcern about climate change may not feel out of place in a social group that is also represented by climate sceptic Catholic and Liberal Australian ex-prime minister Tony Abbott. Rachel's husband is also an avowed climate sceptic, and she says that his views have 'infiltrated' into her.

The thought that the Earth could be materially changed by humans to the point that it became unstable and potentially unliveable is unthinkably frightening to Rachel – it heightens her fear of change and need for a controlled world. She acknowledges that people's actions, including her own, are affecting the environment, and that this creates moral accountability. However, the range of issues Rachel sees as requiring responsible action is limited to those that easily fit within her lifestyle and do not challenge social authority:

> Everyone tries to be responsible, and I think that must help. I know now that plastic bags aren't as easy to come by as they were. The bin that we have under the sink that all the rubbish goes in, I might've emptied it when it was three quarters full and now I have it to the brim.

Within Rachel's world, this concession takes on a greater scale than might be apparent to others. Like a swan paddling against the current to stay in the same place, she is constantly working beneath the surface to maintain a position in which she can feel secure. It is important to her to feel both virtuous and safe.

The predictions of climate change risk are too extreme for Rachel to accept. They undermine her sense of order, fairness and safety. Anthropogenic climate change places a burden of moral responsibility that, if accepted, threatens her sense of her own virtue. In contrast to her generous assumptions about the good intentions of politicians and her social class, she disparages climate scientists as contradicting each other and overstating risks to gain money and renown. Seeing climate change as a 'bandwagon', Rachel describes her frustration at how even her doctor has jumped on: "I've been coughing a lot, and the first thing she [the doctor] said, 'Oh, it could be the climate change.' Really? It's in my lungs now? Let's just blame it for everything."

In response to climate science, Rachel does not rule anthropogenic causes entirely, but reframes climate change as natural, benign and gradual: "that's just the way the world evolves and it fixes itself and it goes along." She imagines a future Tasmania where it will be warmer, "not like Queensland, or anything like that. But […] it'd be nice just to be a couple of degrees warmer all the time. Wouldn't kill anything, it would just be nice." In this hopeful narrative of incremental and favourable change, which mirrors modernist narratives of incremental techno-economic progress, Rachel co-opts climatic change into her middle-class world, where it obeys the conventions of politeness and normality by being 'nice'.

8.4.2 Comfortably numb

Gerald, a chatty small-business owner in his 40s, seems, at first, to be a socially progressive environmentalist. He supports political action for marriage equality and fairer treatment of refugees in Australia. He describes himself as feeling a 'kinship' with nature and values living in Tasmania's natural environment. Gerald's career in the SCUBA diving industry emerged from a connection with sea that started in early childhood, when he would spend holidays snorkelling on Tasmania's east coast. Now a father, he enjoys sharing his affinity with coastal environments with his young family.

> I think if you're growing up in the bush, or around by the beach […] there's a natural side of you that wants to be a little bit on the conservation side of things. Because you did it, you want your children to be able to see it.

Gerald has personal experience of climate change, as someone whose boat-based job requires him to pay close attention to the weather. He has also been involved in scientific surveys of marine life, and has noticed a lot of change in the marine environment.

> We seem to be getting more storms, like dramatic weather events I think are part of climate change. I certainly can't remember the weather systems we have now, I can't remember them as we grew up. So I think people need to understand what climate change is […] when people are going, 'Oh look I've caught a black marlin, that's really odd' [these species are unexpected in the usually cool waters off Tasmania] that's part of climate change.

Despite his knowledge, experience, and progressive views, however, Gerald is unconcerned about climate change. He sees it as a problem whose consequences are dwarfed by personal matters of concern.

> At the moment, I'm concerned about running two businesses and having a small child and not spending enough time with my family, they're my major concerns. You know, climate change? Oh yes, whatever; I've just got to get through life at the moment.

Gerald's unconcern about climate change goes deeper than just having other things on his mind and a finite pool of worry. Material comfort and particularly owning his own home and car is very important to him, as it is to many Australians.

> There was a house sold down B— Bay [a nearby neighbourhood] the other day – it's a shack – for a million bucks. It's on the beach. It's nice but not a million dollars nice. We are starting to see house prices similar to Melbourne. And you need to make money, so you can afford that. I want a nice house, I'm sure you want a nice house. Or you want to drive a nice car.

Gerald suggests that these kinds of wants are pleasant but not excessive and appeals to a sense that this level of wealth and ownership is a social norm. His term of reference for value is primarily economic: he sees making money as a sign of good sense and resourcefulness – even as a moral good in itself, as he believes in the social flow of economic benefits. Consider his

praise for Australian prime minister Malcolm Turnbull: "He's made a lot of money on his own. So obviously he must have some sort of strategic mind, to be able to do that."

Gerald feels some dissonance between his desire to protect environments in which he works and lives and his belief in using resources to generate work and prosperity: "One side of me believes very strongly in the environment and the other side of me believes very strongly in making the best of what you've got and trying to use that." He resolves this by downplaying the scale of risk of climate change, and focussing on ways to protect his family through financial affluence. However, his views are not so much motivated by personal self-enhancement, as by a belief that the freedom and opportunity to improve one's financial situation is a right that should be open to all.

> I disagree how you have [natural protected] areas: they lock them up and you can't go into them. They're a resource that we all own […] so you should be allowed to access to all those things.

His view that protected trees, minerals and fish stocks should be available as economic resources conflicts with those of some of his friends:

> I have this mate who lives in Melbourne who says it is fantastic that Tasmania has locked up its forest; it is really, really good. And I said 'Why?' He said it's great we still have all that forest there, it is there for all Australians. I said, 'Yes, that's fine, but the rest of us, I have got to live here, I have got to make a dollar. You shut down industries,' I said, 'You can't shut down industry and lock things up so you can sit here in Melbourne and talk about how wonderful the trees are.'

A framework of economic value dominates Gerald's thinking about climate change, despite his personal affection for some natural environments. To him, Australia's coal exports are ethically justified by economics and the personal lifestyles it makes possible:

> I suppose we could change in the fact that we're selling resources to [China and India], such as coal, but then people living in Australia have to have jobs. And let's face it, we do like our lifestyle down here in Australia. We do love toys, we do love to own a house, we do love to have two cars […] So we all have to have work somewhere, and some of that happens from primary resources.

Gerald is interesting because he shows how people can hold two sets of apparently opposing views at the same time. While conservation is important to him, material comfort based on

economic prosperity wins out, and also affords him personal access to natural environments that he values. He numbs the ache of this dissonance through conforming to what he sees as dominant social norms, pointing out that he is not alone in putting comfort first – it is part of what it is to be an Australian.

8.4.3 Mourning a lost world

Most afternoons, Doug can be found at the bar of a Returned and Services League Club (RSL) in the north of Hobart. Here he meets up with fellow veterans of the Vietnam War for a beer or two, and places bets on the horse races. Doug is a retiree and would rather be working, but at 60, his back suddenly gave way, leaving him unable to continue his job in a taxi firm. A working-class man who describes himself as 'a Laborite', Doug has always voted for the centre-left Australian Labor Party. In common with the large majority of Labor voters, he accepts the reality of human-induced climate change. He says he can see it for himself, for example in the dryness of the native vegetation ('the bush') leading to wildlife coming onto roads.

> Yeah, climate change is affecting things, because there's not as much water in the bush [...] More times you see roadkill [wild animals that are run over by cars], that's climate change. […] My opinion. Nothing scientific about it. That to me is common sense, you know?

But Doug is despondent. He feels that his opinion counts for nothing. Politically disengaged and socially powerless, he withdraws his concern about all but the most personal of issues.

> I care about the lives of my family; simple. I believe climate change is happening. I don't think I'm in a position to help, but there you go. I'm like a million other people, a billion other people. I believe it's there, but until the powers that be want to do something, no one can do anything. It's waste of time having protests and stuff like that because that just plays into their hands.

Doug believes in climate change, and ideologically and socially – as a father of six and a member of a left-wing public, we would expect him to be concerned about climate change. And yet Doug refuses to engage with the topic. He has little time for activists, who he says "get everyone's back up" by making themselves the centre of attention, and achieve nothing. However, he empathizes with the frustration that leads to protest: "It can be heart-breaking if you feel like you don't make a difference, or can't make a difference, […] I just can't see which way to make a difference." The rules Doug has lived by all his life are socially, if not

politically, conservative: work hard, respect others, avoid debt. Asked what work means to him personally, he says: "I think it's a sense of self-satisfaction. I mean, no one's got to look after you. Then you know you've done your bit." 'Doing your bit' implies that by supporting yourself and your family, you are also contributing to the welfare and development of society.

Doug still sees individual responsibility as part of a larger social effort, but feels that this system of values has been undermined by modern politics. "I am like a lot of older people, I don't think things have changed for the better [...] Respect in the world has gone." Doug's concept of respect reflects a concern with citizenship – one must have respect for oneself, generated by hard work, and in return society must offer respect to its citizens through opportunity and fairness. He feels this has been lost in a shift toward worship of "the almighty dollar":

> The top end of town [the wealthy and powerful] has always had too much to say for itself and the gap's getting bigger. There's no fairness in our system. Any part of our systems, even our legal system is very biased. I mean the top end of town will always win.

The vitriol Doug puts into criticizing political elites suggests that not caring about climate change is a defensive response to feeling powerless in a system that he describes as prioritizing the needs of the wealthy over the poor. Doug's values are more collectivist than individualist – he describes how he is a part of a group of lifelong 'mates' who care for each other. He is not motivated by self-enhancement, but by loyalty to his grown-up children and close friends, and by conformity to traditional secular values. In his view, his values put him out of step with the modern world. He also feels ashamed that his generation has left a negative social and environmental legacy.

> We've raped and pillaged the world […] We're tearing it down. I'm not a greenie, I'll tell you that now, but I just don't like the way we develop [buildings and infrastructure] […] I know there are better ways things can be done. Except the profit margin's not as high if they do it a different way. So not going to change. It goes back to the dollar, doesn't it?

Doug insists that he is not a 'greenie' – a term describing supporters of environmentalist politics such as the Australian Greens party – because they put the welfare of the environment before the welfare of 'the masses', and this is counter to his own values. He speculates that the interviewer is a greenie, because of her concern about climate change, suggesting he sees

climate change as a niche environmentalist issue. It also raises the possibility that his expression of unconcern about climate change may relate to a judgement that despite his feelings of political disenfranchisement, his identity as a left-wing, working class man does not fit with strong concern about climate change.

8.5 Discussion

The three narratives of unconcern about climate change presented above together encompass all five explanations of unconcern we identified in social research about climate change earlier in the paper. Rachel's unconcern about climate change is associated with group-based, self-protective and, to a lesser extent, religious sources. Gerald's unconcern seems underpinned by group-based, self-enhancing and ideological sources (although his politics are ambiguous), while Doug's appears to be group-based, self-protective and, to a lesser extent, ideological. Diverse combinations of sources of unconcern were evident across all nine participants, as was diversity along a continuum from engaged to disengaged modes of unconcern. No two participants exhibited exactly the same dynamics of unconcern. Our analysis thus provides insight into the ways in which unconcern about climate change may take a wide variety of forms based upon diverse combinations of multiple elements. In particular, our research points to expressions of climate change unconcern that are aligned with left-wing politics, such as Doug's, which are not represented in the literature. While right-wing ideology and religiosity are among the strongest explanations for unconcern in the literature, they do not represent several of our participants. Only five out of nine participants consistently voted for the right-wing Liberal Party, with the other four including lifelong socialist, a minor-party voter, a 'swinging' voter, and someone who did not vote at all. Five participants (four of whom were also Liberal Party voters) avowed religious belief – two identifying as Protestant, two as Catholic and one an adherent of an Eastern spiritual tradition. The prevalence of group-based effects in our analysis also raises the question of whether these may be under-represented in quantitative studies, given the efficacy of qualitative methods in drawing out the ways in which social phenomena are implicated in individual lives.

The main contribution of our study, however, does not lie in confirming the five themes of explanation established in quantitative studies. It lies in providing textured accounts of the way in which unconcern for climate change is inextricably bound up with matters of lived concern. These accounts expose the limits of research that assumes, first, that unconcern about climate change is an unequivocal problem for climate change action and, second, that

is to be overcome through improved modes of communication about climate change. It is in this sense that we argue that unconcern about climate change is to be understood as a substantive phenomenon in its own right, and not as a deficit – that is, *not simply as the absence of concern* about climate change. Apprehending unconcern as a substantive matter opens up possibilities for engaging with it as an expression of legitimate life concerns. Such engagement requires empathetic forms of dialogue. It also raises opportunities for acknowledging the concerns that animate unconcern about climate change do not necessarily imply opposition to climate change action. As Pearce et al. (2017 p.725) observe, "acknowledging and valuing dissensus would allow a more publicly inclusive and accessible debate over approaches to climate change that do not prematurely foreclose particular policy options."

From Rachel, we learn how knowledge about climate change may be deeply uncomfortable for those who value social stability and predictability. In other studies, this discomfort has been explained as reactionary conservatism, one often linked to maintaining personal privilege (McCright, Marquart-Pyatt, et al., 2016; McCright and Dunlap, 2011a). However, in Rachel's story we see that this discomfit belongs at least partly to her efforts to live a virtuous, moral and modest life within tight boundaries. Rather than springing from a lack of care for human and nonhuman others, Rachel's unwillingness to engage with claims about climate change belongs to uncertainty about how to understand moral relationships beyond the bounds of her discrete local world. Her localism has interesting parallels to that advocated by some environmentalists as a necessary move away from the global mobility that is a key driver of climate change. Group-based dynamics including her climate sceptic husband, Catholic background and conservative upbringing link Rachel to right-wing politics. However, she did not express the commitment to economic growth and technological progress often associated with the climate change unconcern of the Right. Her unease seemed to lie with more general challenges to the security offered by the *status quo*.

Gerald shows us that unconcern about climate change can be a response to holding together both an economic liberalist outlook and a strong affinity for nature. Gerald's disengagement from issues of climate change is not explained by a lack of knowledge of climate science, a lack of personal experience of climate-induced environmental change or a lack of personal value placed on healthy ecosystems. Rather, his disengagement stems from ideological commitment to liberalist ideals that link economic growth and collective well-being through individual freedom and prosperity (Campbell and Kay, 2014). Gerald explained his

commitment to liberalism as not being simply self-interested; for example, like some prominent right-wing politicians, he justified Australia's coal-export industry by arguing that it is vital not just to Australia's prosperity but to overcoming poverty in places such as India. What is intriguing about Gerald's story is that while he accepts that environmental damage may be a necessary and legitimate side-effect of economic growth, his own individual preferences include having access to attractive natural environments as the basis for his livelihood in the SCUBA industry and for his family's lifestyle in Tasmania. In this way, appeals for action on climate change that Gerald perceives as inhibiting economic development may be perceived by him as also threatening his private dependence on and access to nature.

Doug's narrative sheds light on the ways in which left-wing orientation may be compatible with unconcern about climate change. In part, Doug's narrative, and particularly his need to dissociate himself from 'greenies', is explained by a well-recognized rift within the political Left in many western countries, including Australia, between the working-class labour movement and middle-class (and predominantly urban) environmentalism (Norton, 2003). Doug values the importance of economic development in providing employment and social welfare provisions, and this underpins his distrust of green politics. Yet at least as important in his unconcern about climate change is Doug's perception of entrenched social inequality and his resulting deep disaffection of social elites of all kinds, from business and political leaders to scientific and technical experts. While fed to some extent by his ideological and group-based affiliations, this disaffection also springs from a personal experience of disenfranchisement and disadvantage. In response, Doug restricts his focus to protecting himself and his family and friends from what he perceives as increasing social adversity. Thus climate change is rolled together with a wider disaffection with economic processes, despite the fact that proposed climate change actions, and environmentalist agendas more broadly, may seek to address problems with economic development that trouble Doug.

Each of the lived narratives of climate change unconcern in our study are highly particular. They do not by themselves provide a platform on which to construct broad communication strategies. Nonetheless, they do invite those of us who promote climate change action to think more self-reflexively and, we argue, more creatively about the causes and consequences of unconcern about climate change. At the least, the common depiction of climate change unconcern as an unambiguous barrier to action (e.g. Hine et al., 2016; Moser, 2009), can be counterposed with acknowledgement of the ways in which the political friction created by

unconcern about climate change creates constructive forms of pressure to improve climate change communication, coalition-building and policy making (Pepermans and Maeseele, 2016).

One clear lesson for climate change communicators and policy makers from analysis of the narratives we have presented is that conventional depictions of polarized conflict between development and environment (e.g. Klein, 2014) mask diverse ways in which apparently opposed perspectives can co-exist in everyday lives without generating the cognitive dissonance that might be expected from the literature (e.g. Stoknes, 2014). None of the participants in our study were unconcerned about climate change because of any inability to comprehend sophisticated knowledge, slavish obedience to tradition or authority, deliberate indifference to the suffering of others, or narcissistic self-interest. Our study shows that people who are unconcerned about climate change cannot be assumed to be less dedicated to living a moral life than those who are concerned. Nor can these individuals be assumed to be suffering a deficit that can be overcome by expertise and education. Framing unconcern as a deficit can have the effect of making individuals feel morally under siege – potentially leading to a 'boomerang effect' (Hart and Nisbet, 2011) in which they increasingly situate themselves within social groups that do not place this moral pressure on them. As proposed by Prins et al. (2010), one way forward is to reframe climate change action in more inclusive ways, by subsuming it within policy aspirations that enjoy wider and less partisan support, such as those focussed on human dignity, human rights and poverty alleviation. More broadly, however, there is a need for discourse about climate change to reach beyond matters of fact, to address the contested matters of concern that animate differences in the debate. This involves taking the lives of the unconcerned seriously, as we have sought to do here. Advocates of climate action, such as ourselves, must also be reflexive about the ways in which our own concerns are shaped by the contexts of our lives. All this amounts to an argument that an understanding of the 'matters of *un*concern' as a substantive issue, and not as a lack of concern, is required to appreciate the centrality of lived experience to evaluations about how we wish to live in a climate-changed world.

Chapter Nine | Getting to Know the Others: Repeat Interviews and Delayed Disclosure as a Method for Researching a Politically Sensitive Issue

Lucas CH (2018) Getting to know the others: Repeat interviews and delayed disclosure as a method for researching a politically sensitive issue. Manuscript submitted for publication.

Abstract

This article describes an innovative method of qualitative social research on a politically sensitive issue: the lived experience of unconcern about climate change. Repeat interviews together with delayed disclosure of the research aims enabled me to elicit rich and reflexive narratives from participants whose opinions on this politically controversial matter differ from the dominant view. This method gave new insight into the ways that social contexts and concerns shape people's responses to climate change. I suggest that a sequence of repeat interviews with delayed disclosure of research aims is a useful model for research on politically sensitive issues. As it involves building mutually trusting relationships with participants, while limiting their ability to give informed consent, I argue that this method heightens a researcher's attention to positionality and ongoing ethical responsibility to participants.

Keywords: repeat interviews, delayed disclosure, informed consent, trust, positionality, climate change.

9.1 Introduction

Climate change is a controversial and highly sensitive issue, which generates intellectually complex, emotionally and politically charged and often divisive responses (McCright, Marquart-Pyatt, et al., 2016; Shome and Marx, 2009). While the dominant view of modern institutions is that climate change is a very serious concern (Stokes et al., 2015), large sectors of the public remain unconcerned, and disengaged from current forms of climate change communication. Very little qualitative social research has investigated the lived experience of unconcern about climate change. The prevalence of normative assumptions about the merits of concern about climate change and the related sensitivity of the topic makes it difficult to study how unconcern about climate change manifests, and how it relates to other attitudes, practices, norms or values. This paper describes an innovative qualitative research method

developed to engage with people who are unconcerned about climate change. It shows how this method enabled the researcher to elicit rich, participant-led data on the experience of unconcern about climate change through the development of mutually trusting relationships. Using one participant's narrative as an example, the paper describes how this method can engage hard-to-recruit individuals, draw out sensitive information, and uncover connections between issues that might remain hidden in more common forms of research engagement. This method therefore helps to address the reasons why different sections of society think differently about climate change, and makes steps toward generating dialogue across difference.

Two notable pieces of research have provided such insight into climate change unconcern. In 2000-2001, Kari Norgaard conducted what she called "an ethnography of the invisible" (2011: 234), living in a Norwegian town and participating in public social life "to understand in what spaces and what ways it was acceptable to talk about climate change" (2011: 236). She found that talk of climate change was considered distasteful – and suggests that unconcern is a socially organized response to an existential threat. Arlie Hochschild (2016), seeking to understand the emotional appeal of right-wing politics, spent five years researching the mostly working-class, white, American right in Louisiana. Snowballing from personal contacts, she interviewed 40 people, and chose six to spend time with, "visiting places of birth, churches, and burial plots, sharing meals, driving places together, attending events, and more" (2016: 249). Hochschild's participants are mostly sceptical about climate change. They see it as a 'big state' idea, a 'trojan horse' for increasing government regulation, threatening their strongly-held values of freedom and independence (Hochschild, 2016: 48).

My research examines unconcern about climate change in the context of people's lives, their social group, and their other concerns and attitudes. The approach discussed here does not require resources needed for a long-term ethnographic study, yet accesses a rich and nuanced understanding of the discursive, relational and evaluative processes through which people come to be unconcerned about climate change. In-depth qualitative research into the lived experience of having an alternative view on sensitive or controversial issues is challenging (Dickson-Swift et al., 2007) as it can require participants to trust and open up to a researcher whose views conflict with their own. This presents particular challenges in recruiting participants (Kristensen and Ravn, 2015) and positioning the researcher as non-threatening, despite their difference in view (Baarts, 2009). However, as Harding (1993) argues, situating

the inquiry in the lives of people with non-dominant views can generate illuminating questions that do not arise in inquiry that begins with the dominant narrative.

This method enables recruitment and empathetic interviewing of people with differing attitudes and social identities to those of the researcher. In this case, I was 'other' to the participants in that climate change is an important concern in my life (and one that catalysed this study). A **sequence of repeat interviews** facilitated the establishment of mutually trusting relationships with participants, while **delayed disclosure** of detailed research aims reduced the risk of participants feeling pressured to respond with a socially acceptable level of concern, or by being oppositional or confrontational (Roer-Strier and Sands, 2015). In the following section I describe my rationale for these two processes. I then describe the method used in detail, including ethical considerations arising from it. I show how this method enabled the sensitive exploration of a stigmatized and personal issue in the context of one woman's attitude to climate change, through the narrative of Margaret, who participated in the study. Finally, I discuss the benefits and limitations of interlinking the processes of repeat interviews and delayed disclosure for the study of politically sensitive issues.

9.2 Rationale for a sequence of repeat interviews

In most qualitative social science disciplines, single interviews are "the implied default method" of inquiry (Vincent, 2013: 341). Qualitative interviewers are generally advised to build 'rapport' with interviewees by appearing unthreatening, and providing simple descriptions of the intent of the interview (Denzin and Lincoln, 2005). Easy-to-answer, descriptive questions should be asked first, to put them at their ease, and sensitive, more interpretive questions should be left until near the end of the interview (Leech, 2002). However, Oakley (1981) deconstructs the 'rapport' of the traditional research interview as a tool of hierarchical power in which a passive role is bestowed on the interviewee. She ascribes the prevalence of the 'one-off' interview to a masculine research paradigm that prioritizes detachment and objectivism. In her repeat interviews with mothers before and after childbirth, she developed an alternative maxim: "no intimacy without reciprocity" (Oakley, 1981: 49), in which trust was built by making the interview a two-way, rather than one-way process. Trust, as opposed to rapport, takes time to develop, and requires interdependence between the interviewer and interviewee (Lucas et al., 2015, Chapter Three).

In the social sciences, repeat interviews are generally seen as the province of longitudinal research, in which the method is designed to examine change over time (Corden and Millar,

2007). However, there are several benefits of repeat interviewing beyond longitudinal depth. These include building mutual trust, allowing opportunity for extended participant reflection, and revisiting subjects to clarify misunderstandings and delve deeper (Bernard, 2006). Repeat interviews can also reveal the stories that people create and appropriate to make meaning of their lives, and the way these shift and change in response to circumstances (Neale and Flowerdew, 2003). The method designed for this study involved a sequence of eight interviews, scheduled at intervals of two to three weeks. This interval allowed time for participants to reflect on the experience and subject of the interview, but ensured our meetings were close enough for them to remember the last interview, and to maintain a level of trust and intimacy between us.

9.3 Rationale for delayed disclosure of research aims

'Context effects' (Schwarz and Strack, 1991) occur when interviewees interpret a question in the context of a previous question they have been asked. This can lead to biased responses: for example, asking a question about drug-use would likely elicit a different response if the previous question was about healthcare than it would if the previous question was about crime (Schwarz et al., 2008). Researchers' aims or institutional affiliation can also create unintended context effects, as participants often position themselves with respect to their interpretation of these (Schwarz et al., 2008). Interviewers can, intentionally or inadvertently, increase the salience of a particular norm or standard of comparison or concept, 'priming' participants (Bargh et al., 2012), or 'framing' issues in particular ways (Benford and Snow, 2000).

Controlling context effects is a particular challenge when researching sensitive issues (Crow et al., 2006). Explaining the aims of the research to participants can generate context effects that lead to responses that do not adequately represent participants' attitudes or beliefs. I wished to avoid this outcome when talking to participants who were unconcerned about climate change. I therefore designed recruitment information for participants to be as general as possible, describing the aim of the research in broad and uncontroversial terms, and not mentioning climate change directly. However, this had the effect of initially preventing participants from being able to give fully-informed consent. The concept of 'informed consent' itself is potentially problematic because it implies a level of transparency about the aims, methods, processes of analysis and reporting of a project that is, in practice, very difficult to realize (Corrigan, 2003). Crow et al. (2006: 94–95) describe the ethics of informed consent as a balancing act between the 'twin problems' of providing participants with:

> too little information (which risks participants being deceived or manipulated) [… or] too much information (which risks research being delayed, participants' thinking being moulded, and participants becoming alienated).

They also warn that certain social groups or topics become unresearchable if too much attention is paid to processes of informed consent. By delaying disclosure of the detailed aims of my research, participants were able to get to know me, enabling them to make a more informed judgement about their decision to participate in my research once I had fully disclosed the aims of the research in the sixth interview. Asking participants to explicitly re-consent at this point made it easier for them to withdraw from the study, should they chose to do so. Delaying disclosure of the aims of the research did not eliminate context effects. In any research interview, these effects can never be fully avoided, but require attention to the discursive and evaluative processes arising from the researcher's own positionality as well as those of participants (McCorkel and Myers, 2003). The extended timeframe afforded by a sequence of eight interviews also enabled me to more clearly evaluate my positionality in relation to my participants. This reflexivity was enhanced by analysis of field notes I took after each interview, reflecting on my impressions of the process and substance of each interview.

9.4 Understanding unconcern: reflections on the research process

I recruited participants who were unconcerned about climate change through a two-stage process. The first stage was a social survey focussed on personal values and attitudes to local and global problems. The second stage was to invite further participation from respondents who had answered that they were not concerned about climate change. I did not refer to climate change when I invited potential participants to be part of the study, but gave a more general description of my purpose, as 'finding out more about how people form their views on issues that are considered important, topical or contentious.'

Nine of the survey respondents participated in a sequence of several approximately 30 minute interviews over a period of six months. Seven participants were interviewed eight times, at two to three week intervals. One was interviewed seven times, and another six times due to their particular circumstances. In the initial interviews, I began by asking participants about what was most important to them. As the interviews progressed, I broadened the scale of inquiry from local to national and global issues. I did not introduce the subject of climate change until the fifth interview. In the first four interviews, my intent was to find out what concerned each participant in their own terms, how they responded to public issues they

encountered in the media, or through social media or conversation, and how their interpretation of these issues was reflected in their telling of their life decisions. This was the contextual information that enabled me to interpret their unconcern about climate change in the context of their other substantive concerns and values. Over those four relatively open interviews the participants also got to know me. When they shared their stories with me, I was non-judgemental in my response. I also shared, when asked, information about my background, my family, my experience of life, travel, parenting, working; I did not aim to be an impersonal 'data-collecting instrument' (Oakley, 1981). I attempted to avoid some context effects: I did not mention climate change unless it was brought up by the participant (only one of the nine mentioned it of their own accord). I also avoided talking about my own political views, although in the context of finding out where I worked, where I lived, and some of what I was interested in, my participants could, and did, make their own judgements. Over the first four interviews (across approximately three months), we developed relationships involving some amount of mutual trust, indicated by participants' increasing openness and willingness to share personal stories and reflections, and my feeling that they were engaging sincerely with me.

By the time I asked about their attitudes to climate change, participants understood that I already knew a lot about them, and would not form an opinion of them based only on their response about climate change. Because our routine of interviews had set up a pattern of time spent in self-reflection, their responses were thoughtful and deeper than if I had asked about this topic when we first met. Participants often wished to return to topics we had discussed in the previous interview because new thoughts had occurred to them, or they wished to report a conversation about the topic that they had had in the interim. They were also able to refer back to previous conversations about their own lives in order to give context to their views and deepen meaning. The method generated rich and insightful responses from participants about why they were unconcerned about climate change. The process was also helpful in enabling me to challenge my own assumptions about the climate change discourse and about unconcern itself (see Lucas and Davison, manuscript submitted for publication, Chapter Eight).

In the sixth interview (following the interview focussed on climate change), I fully disclosed the aims of my research, that climate change was the focus, and that participants had been recruited because of their unconcern about climate change. I explained my reasoning for withholding this information up to this point, and told participants that I would completely

understand if, now that they fully understood the aims of the research, they wished to reconsider their participation. I provided new, more specific written information about the study, and asked them, if they were happy to do so, to re-consent to their participation in writing. Following their final interview, all participants were offered the opportunity to member-check transcripts of the interviews (Lincoln and Guba, 1985). Reflecting the level of trust developed through the multiple interviews, all nine participants were happy to re-consent, and all responded positively to my late disclosure of climate change as a central theme. When, in the final interview, I asked for candid feedback on how this method of delayed disclosure made them feel, none of the participants expressed any anxiety or concern about it. Some told me that it helped them to make sense of what I was doing and why I had chosen certain themes for discussion. All nine participants described the benefit they had felt from being 'listened to' by a non-judgemental, sympathetic researcher. Some of them also described feeling good about having helped me personally, and having contributed to the greater causes of education and non-partisan communication.

While none of my participants reported feeling any harm from the process of sequential disclosure, I feel my ethical responsibility is heightened both by the fact that their consent was initially not fully informed, and that we were able to form trusting relationships. Limerick et al. (1996: 458) describe the interview as:

> […] a *gift* of time, of text, and of understanding, that the interviewee gives to the interviewer. Measures that are undertaken to equalize the power relationships cannot negate the extent to which the interviewee has the power to give or not to give. Conversely, this gift is being entrusted to the care of the researcher as there is an ingredient of trust, on the part of the interviewees, that the researcher will not betray them, abuse their power, or misuse their words.

'Gifting' is a powerful metaphor for the ongoing relationship of trust that continues throughout the process of the research. It is not the methodological design that makes the research ethical or not, but the way the entire project is carried out, day by day, minute by minute. As Burman (1997) puts it, the moral-political features of the research are not reducible to its methods, but are inherent in the reflexive and adaptive practice of the research.

9.5 How it worked: Margaret's story

As an example of how this method played out, I describe its benefits and ethical challenges in relation to one of my participants. Margaret is an example of a hard-to-recruit participant.

An extremely shy person, she typically avoids participating in conversations with strangers and is not part of a social network outside her close family, so is unlikely to have been reached through snowballing techniques. Margaret was initially extremely nervous to be talking to a stranger. She later related an internal struggle about whether to participate in the study:

> I was pretty anxious because I was, like, because I don't like meeting people at all. I'm really an introvert. I do not like meeting people. I don't like talking to people. I like working with children. I like children. I don't like people. And I was like, 'oh no, I don't want to do it'. And then I was thinking, 'no, I'm going to push myself'. It's about time that I started pushing myself.

Margaret's vulnerability made it particularly important for me to be reflexive about our respective power dynamics, and the potential for her to experience psychological harm in the research. The method of repeat interviews and delayed disclosure reduced the potential for harm, because it allowed time for us to get to know each other through the discussion of comfortable subjects, without the time-pressure of feeling that I had to broach more sensitive issues. Over time, her anxiety reduced, and she was happy to talk about a range of issues.

Margaret relates her opinions and attitudes about public issues to the story of her own life. Over the course of the research, she revealed elements of her life story like pieces of a puzzle that came together right at the end of the interview process. She described being isolated and controlled, both physically and mentally, first by her husband, and then by her church community. Escaping from both of these controlling influences has been a turning point in her life: "Here I am at 47, and it's only been probably in my 40s that I've started to have a life outside of my own four walls really."

In the seventh interview (after the full disclosure of the aims of the study), I asked if there was an issue that we had not covered previously that she would like to discuss. Margaret chose to speak about the impact of domestic violence on her life. While she had earlier described an unhappy marriage and divorce, she had not previously mentioned that she was a victim of physical abuse. That she chose to tell me this in the penultimate interview was important, because she understood the focus of my research, had built enough trust in me to reveal this sensitive information, and wanted it 'not to be missed out' from her story. Social research often focusses on politics, religion, age, education and earnings as factors implicated in public attitudes to issues like climate change, but is less often able to reveal the impact of stigmatized issues like family violence. It was Margaret's wish that I include domestic violence in my

account of her unconcern about climate change, as it is an important part of the context in which she makes decisions and holds values and opinions.

Throughout her marriage, Margaret felt that her husband controlled everything. She was confined physically, in that he made it difficult for her to leave the house, and mentally, in that she felt compelled to maintain the appearance of a happy marriage, while she was being beaten and bullied.

> It messes with your head. You no longer think rationally. I always compared it to being like you're under a magic spell. Because you don't have any common sense or any rational thought […] It's just this big web of confusing thoughts, and control, and fear.

She eventually left her husband with the assistance of the clergy at her traditional Pentecostal church, but the isolation and control she had felt in her marriage were then perpetuated by the church community, who demanded further compliance:

> You're going against the grain to take your children to the doctor, to give them antibiotics, to send them to school and not home school, to receive a welfare payment. And it's very hard, it's very hard to just try to do the thing that you feel is best for your child. With all that pressure around you, that you're strange or over-reacting or you're completely doing the wrong thing, it's like – it is actually [morally] *wrong*.

Margaret's experience of domestic violence and emotional abuse left her unable to express her own thoughts or opinions in a social environment. Her church, which was in a rural community that depended on farming and forestry, took a strong stance against environmentalism, because it challenged the 'natural order' of man's dominion over nature. Climate change, seen as an environmental issue, was either dismissed, or seen as a sign of the approach of the end times. For Margaret, it was just another issue that she learnt to keep quiet about:

> [The Church is] just not really a safe environment to have your own opinion anyway. So it's just better not to look into it, so you don't have an opinion.

Two years after leaving the church, Margaret described herself as finding her own voice. She grasped the opportunity of these interviews to engage in reflexive self-development, in which

she questioned views that she had previously accepted, and challenged herself to know her own mind.

> Certainly with climate change I need to look into it for myself [...] Simply because I can see that it's getting hotter and I can see that we keep having bushfires and that concerns me. And I don't know whether bushfires are even related to it or not. I don't know. And because, you know, they introduce the carbon tax then they pull it out, so is that a thing that I should be supportive of? […] I need to know whether or not that's a thing that I'm supportive of so that then I know how to vote. Because I don't just tick a box when I vote, I like to have some thought put into it.

For several participants, including Margaret, the benefit of the repeat interview process was not only the validation they felt from being 'listened to', but the opportunity to reflect on why they held attitudes and opinions that might be often referred to, but seldom deeply examined. This did not, on the whole, have the effect of making my participants more concerned about climate change, and this was not my aim. It did contribute to a more nuanced and sensitive understanding of the lived experience of unconcern about climate change.

9.6 Discussion

The benefits of repeat interviewing over a relatively short time-frame (as opposed to the lengthened time-frame imposed by longitudinal methods) are that mutual trust can be developed, conversations can be reflected upon and resumed across interviews, and opportunities for rich and in-depth explorations of the effect of lived experience on values and attitudes are enhanced. In my study, forming meaningful relationships with participants who were 'other' in their attitudes to climate change also helped me to turn the mirror to realize the effects of my own positionality. However, it is questionable whether repeat interviews alone would have enabled me to engage with people who are unconcerned about climate change, if I had revealed my specific interest and focus on their unconcern at the point of recruitment. Delaying both discussion of climate change and disclosure of the detailed aims of the study until late in the interview process was important to enable me to understand the concerns and values that did motivate participants, and gave context to their unconcern about climate change.

The ethical dilemma of this method was that it involved, to some degree, a covert agenda on my part that had the potential to destroy the trusting relationships I had built with

participants. While I had been careful not to deceive participants about the aims of my study, my description was very broad and unspecific. The experience of revealing the full details of the aims of the research to each participant in the sixth interview was challenging, in that it shifted the focus of conversation onto me as the researcher, and my intentions in relation to the participant. In opening up a new opportunity for participants to withdraw or consent to continue with the research, it put the research in some jeopardy. However, this moment was also an opportunity to upturn power relations between interviewer and interviewee, as it prompted participants to ask me questions, and to revisit the subject of their unconcern about climate change with a better understanding of my positionality. In offering their re-consent, participants in this study made an informed judgement about whether I could be trusted to use the gift of their time, experience, and story with respect and care. In this way, the method of repeat interviews with delayed disclosure enabled a level of trust and commitment that is not possible in single interview research.

Repeat interviews should not be seen exclusively as tools for longitudinal, anthropological or ethnographic research, but, employed over a relatively short time frame, can enable a rich exploration of attitudes in their lived context. Delayed disclosure of aims, while requiring careful consideration of its resulting ethical implications, can be an effective method to enable recruitment of people with alternative views on controversial subjects, without triggering unhelpful context effects. Delaying disclosure can give time for the researcher and participant to get to know each other, and to explore more sensitive issues at a point when they are no longer likely to negatively affect the tone of the interviews or the possibility of a trusting relationship. Together, repeat interviews with delayed disclosure of aims are a useful method for in-depth and empathetic research into attitudes to politically or socially sensitive issues, particularly when researching a marginal view from the position of the dominant view.

This paper shows how the method of repeat interviews and delayed disclosure used in the qualitative part of this study has enabled a form of engagement with unconcern about climate change that would be hard to achieve with traditional research methods. The dialogues generated through this method help not only to understand why participants are disengaged from current forms of climate change communication, but also offer a means of engagement through which the active concerns and priorities of people who are unconcerned about climate change can be more clearly heard.

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Commentary

I initially undertook this study hoping to understand why the work I was doing, as a climate change communicator, was failing to engage with the very people who I felt I needed to get through to. The information I was involved in providing to the public, in various creative and engaging ways, was used and appreciated by many people. But I was troubled by the feeling that what I was doing was not effective. When I raised my concern that there were people who we weren't persuading, for whom this approach clearly was not working, I was told, by several well-meaning climate scientists, not to worry about them. We can't take everyone with us, they said. There will always be naysayers. What we need is an actively engaged majority who will push for action. I was still not sure. There seemed to be something broken in the way we were communicating about this horrendous problem.

In this final chapter, I return to the question of why climate change communication is not working for all sections of society. Drawing together the theoretical, quantitative and qualitative strands of the thesis, I ask what the cultural narratives of concern and unconcern revealed in this thesis imply for a new model of climate change communication.

Chapter Ten | Storying a Changing Climate

> We were all trapped in stories, she said ... each of us the prisoner of our own solipsistic narrative, each family the captive of the family story, each community locked within its own tale of itself, each people the victims of their own versions of history, and there were parts of the world where the narratives collided and went to war, where there were two or more incompatible stories fighting for space on, to speak, the same page.
>
> Salman Rushdie (2015: 112)

10.1 Introduction

The question I have asked in this thesis is why current forms of communication about climate change are failing to effectively engage some sections of society. Late modern societies are polarized on the issue of climate change, unable to agree on the nature of the problem, or the ways in which it might be addressed. In this thesis, I argue that climate change communication is failing to engage people who are unconcerned, in large part because it focuses on the values and narratives of people who are concerned about climate change. Where it does engage with the unconcerned, it often does so in ways that frame unconcern reductively, as a negative attitude, without addressing the active concerns and priorities of this diverse group. I argue that focussing the efforts of climate change communication on the concerned is unlikely to be effective in motivating political action, and may contribute to increasing public polarization. Unconcerned publics are broad, and many of the unconcerned occupy positions of privilege and influence. There is an urgent need to address the values, attitudes, and concerns of citizens who are unconcerned about climate change, and to engage them in meaningful public discussion. This may mean that communicators of climate change need to re-evaluate what types and means of discussion are constructive in the public context.

As I have discussed in Chapter Eight, in order to engage more effectively with the large sections of the public who are unconcerned about climate change, a broader range of narratives is needed. Dialogue should replace deficit models of communication. Climate change is not a simple problem that can be clearly defined through science and solved by consensus. In Chapters Two and Three, I described how climate change is integral to the history of modernity. From coal mined to power the steam engines of the industrial revolution, to the vast reserves of oil and gas consumed for electricity and transport since the second world war, the fossilized remains of long-dead plants and trees have fuelled modernity

(Malm, 2016; Urry, 2010). Life as we know it in modern societies exists thanks to these sources of energy Life as we know it in modern societies exists thanks to these sources of energy, and the environmental transformation they have enabled. All the experiential goods – such as education, healthcare, mobility, employment – and the material goods – such as medicines, cars, refrigerators, clothing, machinery, computers – that make our everyday lives possible, have been built, and continue to be powered largely thanks to fossil fuels. These dead masses have shaped existing cultural, political and economic systems and possibilities. Social responses to climate change are informed by, and entangled in, widespread implicit trust of the systems and practices that make up everyday life. To address climate change is, therefore, to address modernity itself. This task cannot be reduced to the measurement of carbon dioxide in the atmosphere, to cost-benefit analyses of renewable energy. The stories told by communicators of climate change remain too narrow. Climate change is not only a tale of the environmental impacts of greenhouse gases. It is also a story of how human societies can come to terms with the powerful and uneven political, technological and ecological legacies of modernity. With Val Plumwood (2009: 113), I suggest that addressing this problem will require a deeper form of reflexive engagement than is current in much public conversation: "we need much more than a narrow focus on energy substitutes. We need a thorough and open rethink which has the courage to question our most basic cultural narratives." In this chapter, I draw together the findings of the thesis to question what a rethink of the modern cultural narratives of climate change might mean for climate change communication.

There are many forms of climate change communication, which include, but are not limited to science communication, political communication, communication by NGOs, by corporations, vested interests, the media, and between families, friends, colleagues, acquaintances and strangers. Investigating the different ways in which the varying modes and messengers of climate change communication engage different publics has been outside of the scope of this thesis. Instead I have focussed on a broad definition of climate change communication based on the prevalent cultural narratives and discourse of climate change, rather than on the vectors, diverse modes and material forms of communication. Future research in this area would benefit from attention to the ways in which different forms of communication enable (or inhibit) public engagement with the issue of climate change.

This chapter explores the contesting cultural narratives about climate change evident in the empirical material of this study. These narratives reveal processes of discursive friction,

through which late modern values and power-dynamics struggle and potentially transform social realities. They also uncover something of the way that individuals are implicated in the political clash between conflicting values and cultural priorities. Narratives of unconcern shed light on the work done by the narratives of concern that are prevalent in climate change communication, and expose the cultural construction of all of these stories. My empirical sources in this chapter include both survey and interview data (including some findings from the Hobart Values Survey not previously discussed: statistical tables relating to these findings can be found in Appendix I). I also draw on theoretical findings from earlier chapters. In this way, this chapter offers a synthesis of the findings of the thesis.

The chapter is structured in four parts. Section 10.2 introduces the theory and methods used in this chapter. Section 10.3 synthesises findings of the study in the form of cultural narratives of concern and unconcern, together with analysis of how these narratives interact, and what they tell us about the politics of climate discourses. Section 10.4 responds to Plumwood's call for a rethink of the ways we communicate about climate change, asking 'what model of climate change communication could genuinely engage with the diverse publics and divergent narratives of climate change described in this thesis?' It describes the challenges to current model of climate change communication that have emerged from this research, and offers suggestions towards a reflexive, pluralist model of climate change communication.

10.2 Theory and method

Cultural narratives, as first described in the introduction to the thesis, are the product of networks of interactions – conversations, symbols, parables, texts, rituals, and everyday practices – in which certain evaluations are validated, and through multiple repetitions, become embedded in the lives of networks of people. In this way cultural narratives become morally-laden and collectively influential interpretations of the meaning of events, ideas, policies, or identities (Fivush, 2010). To reproduce a cultural narrative is therefore to participate in a powerful social process in which the stories we tell about the world shape its realities, and are shaped by them in turn. Relating a cultural narrative often leads one to take a moral position, and to situate oneself within a framework that tells others about your moral and social identity (Taylor, 1989). Once internalized in ways of thinking and acting, a cultural narrative becomes a frame or lens through which one sees other narratives, making particular metaphors, images, arguments and concepts appear more relevant and true (Davies and Harre, 1990). Culturally dominant narratives gain currency either through the breadth of

their spread, or their promotion by powerful agents in society. These narratives must be constantly negotiated, and can have the effect of silencing marginalized groups in society (Fivush, 2010). Within non-dominant groups, alternative cultural narratives gain purchase by providing a means to resist the evaluations and moral implications of a dominant narrative (Sclater, 2003). To study the flow and interaction of cultural narratives is therefore to situate the 'reflexive project of the self' (Giddens, 1991) within the bigger picture of society. As the philosopher Charles Taylor remarks, "a self only exists among other selves" (1989: 35). Cultural narratives reflect individual experience, but are the tools of collectives, and of structures of power that work to make some realities more likely than others. Understanding of the constraints of these systemic dynamics is vital in thinking about the ways that individualized selves can contribute to a vast common problem like climate change through processes of communication.

Multiple cultural narratives of climate change co-exist, and influence each other (Hulme, 2009). There is not scope within this chapter for an exhaustive discussion of these various cultural narratives. Instead, I begin from an alternative perspective to that taken by most communicators of climate change, with the stories of people who do not share the cultural narrative that climate change is a concerning problem. Unconcern is marginalized and delegitimized in climate change research and activism. Most existing forms of climate change communication aim to promote either acceptance of the scientific consensus that climate change is an urgent concern, or social consensus on the need for climate action (Pepermans and Maeseele, 2014). Several of the interview participants in this study reflected this in describing their sense of breaking a social norm by being unconcerned about climate change. Section 10.3 describes and analyses the cultural narratives reproduced by interview participants that relate to their unconcern about climate change. I have use Hajer's (1993) concept of argumentative storylines (first introduced in Chapter Six) to identify the different ways in which interview participants express cultural narratives. Hajer (2006: 69 italics in original) describes storylines as "condensed statement[s] summarising complex narratives, used by people as 'short hand' in discussions. Identifying story lines brings out that people not merely refer to a problem with a fixed identity, but are continually *changing the problem definition*." Storylines were identified through the narrative analysis of the interview transcripts, as described in Chapter Six. The multiple storylines each cohere within a broader cultural narrative. However, each push in a slightly different direction, changing the problem definition through emphasising a particular perspective, or metaphor, or by making a different

connection to other cultural narratives. I have grouped the storylines according to the cultural narratives they represent. Together with these narrative elements, I also introduce evidence from the Hobart Values Survey (detailed in Part II) to place these narratives in a broader social context.

10.3 Cultural narratives of unconcern

I have structured this section in light of the fundamental assumptions about nature, scientific rationality, and the relationship of self to society which Beck (2010) describes as inherent to modern thought, and which are discussed in Chapter Two. I therefore offer three sub-sections, respectively examining cultural narratives about human relationships with nature, scientific rationality, and self-in-the-world. In each of these sub-sections, I outline the prevalent cultural narratives of unconcern, with reference to storylines from interviews, and the results of survey data. In each sub-section, I go on to analyse how these grouped cultural narratives can inform us about climate change discourse. Placing narratives of unconcern in the context of narratives of concern, I ask what they tell us about processes of climate change communication, and at a broader scale, about the experience of living in late modernity.

10.3.1 Narratives about human relationships with nature

Nature can care for itself: This cultural narrative suggests that nature is vast, and capable of containing and absorbing human impacts without being materially damaged. Interview participants used a number of diverse storylines to make this point. Rachel described the world as "find[ing] ways to heal" and care for itself. Climate change is natural in this storyline, part of a predictable pattern of flux: "The world will go through all of this and it always has gone through periods where we might have extreme heat or extreme cold or ice or whatever, but that's just the way the world evolves and it fixes itself, and it goes along" (Rachel). The belief that nature can care for itself corresponds with the low level of care for nature reported by respondents to the Hobart Values Survey who are unconcerned about climate change (see Chapter Five). Other interview participants were also optimistic about aspects of climate change. Oliver pointed out that carbon dioxide is good for plants, suggesting that narratives of impending famine are misplaced. The feeling that scientific narratives of climate change convey unfounded panic and catastrophism was shared by several participants. They expressed differing reasons for this. Gerald argued that catastrophic change was not imminent: "I don't think the polar ice caps are going to melt tomorrow." In reference to melting ice caps, Neil said "we panic about things that may not eventuate." Hannah described current

environmental concern as a 'fashion' that would soon change, implying that it did not have a basis in real jeopardy. For some, this confidence is based in religious or spiritual belief that there is an external power in control. Henry, for example, is assured that God will not "let the world come to naught."

Nature is a resource to be used: The representation of nature primarily as a resource was shared by all of the interview participants in my study. The Hobart Values Survey also showed that people who are unconcerned about climate change are more likely to see nature as a resource. On average, they were more supportive of extractive industries than people who are concerned (see Lucas and Warman 2018 for analysis of this in reference to forestry). Forty per cent of the unconcerned described forestry as one of Tasmania's most important future industries, compared to 9% of the concerned. The pattern is similar for mining (supported by 22% of the unconcerned and 11% of the concerned), and fisheries and aquaculture (supported by 84% of the unconcerned and 65% of the concerned). In the cultural narrative of nature as a resource, humans are part of a hierarchical order that places them above the natural, and the use of natural resources is seen as a fundamental human right. This narrative has deep historical roots, both in the Christian traditions, and in the colonial drive to settle and exploit new frontiers across the globe. In general, the interview participants do not ascribe any intrinsic value to natural phenomena. Oliver, for example, likens the value of trees in Tasmania's native forests to that of a farmer's "potatoes and carrots". For Henry, turning the wilderness into a garden is the God-given role of humanity: "we're needed in the system to cultivate the Earth, to enhance it." A storyline that emerged strongly from interviews was that a 'balance' must be maintained between nature that is protected and unused, and nature that is available for human use. This storyline was used by several participants in direct resistance to the storyline that 'wilderness' is an intrinsically valuable and threatened part of nature that must be protected. "You have to have a balance. You don't wanna be totally overgrown with nature so much so that you're struggling to live in a modern society," Rachel said. Storylines that presented people as a problem, such as storylines of overpopulation, were out of balance, according to Henry. However, participants could also point to examples where human use of the environment had led to imbalance. This was particularly related to pollution, and participants described the value of 'clean' air, soil and water. Hannah described the air pollution in cities she had visited in China as "badly perverted", suggesting a system out of balance because it no longer met the needs of citizens.

Analysis

The cultural narratives re-told by the unconcerned see nature fundamentally as a resource, which requires 'balanced' human use (implying that absence of use is undesirable). This nature is benign and able to care for itself, or indifferent and unassailable. A third possible narrative of unconcern that I did not see in interviews, but that is present in 'eco-modernist' cultural narratives of climate change (Asafu-Adjaye et al., 2015) is that nature is fully manageable by humanity. These cultural narratives are narratives of resistance and opposition to those frequently communicated by advocates of action on climate change. Many environmentalist narratives describe nature as fragile and damaged, its 'wild' places under threat, in need of protection from humans. Invisible 'tipping points', beyond which the natural will spiral out of control into an unknown future are predicted to be just in front of us. The unconcerned tend to see these narratives as fear-mongering, irrational and self-serving. The concerned see oppositional narratives as ignorant, duplicitous and self-serving. By placing these warring narratives next to each other on the page, I hope to show that they exist, at least in part, because of one another. These are stories that have been told and retold, becoming accepted accounts of the world as it is represented by different social groups. In this way they can escalate over time, becoming increasingly polarizing. An important role of these narratives is to oppose one another. The narratives of the unconcerned are descended from an earlier modernity, in which nature seemed never-ending and formidable, and human progress was measured in the inroads made into the wilderness. The concerned seek to challenge these old certainties, and narratives of wilderness and fragility are designed to undermine the narrative of nature as a resource – they are in this way power-struggles over problem definition.

However, both of these sets of narratives about nature – as self-healing resource and as fragile wilderness – share an externalising perspective that sees the natural as separate and 'other' to humanity. To question the externality of nature is to draw threats to humanity such as storms, droughts, floods and wildfire within the sphere of human influence. This is to assert the co-production of certain forms of nature and certain social systems and practices. The opportunity offered by hybrid risks of 'socialized nature', such as climate change, is to re-evaluate the relationship between humans and non-human others (Beck and Kropp, 2007). This is far from a novel insight, as the distinction between nature and culture has long been revealed as itself a contestable cultural construction (Castree, 2001; Latour, 1993). That cultural narratives externalising nature continue to manifest in public discourse is not a matter of ignorance but a matter of power. As Beck points out, and I discuss in Chapter Two and in

Lucas and Warman 2018 (Appendix I) , the crisis of authority of science and governance in late modernity has shifted the power of problem definition out of the hands of experts (Beck et al., 2003). Power therefore resides with those who can shape dominant cultural narratives, as problem definition is formative of the range of possible responses. These storylines and cultural narratives about nature are social tools of persuasion and resistance. They are used by, and help to create, discourse coalitions that stand for particular moral positions. They participate in the formation of discursive 'ruts' (as described in Lucas and Warman 2018) that perpetuate differences between social groups across time. This analysis implies a need to rethink the cultural narratives about human relationships with nature used in climate change communication, recognizing the ways in which they are implicated in the politics of discourse, as I will discuss in section 10.4.

10.3.2 Narratives about scientific rationality

Science does not represent truth: A variety of storylines used by interview participants gave different reasons to doubt scientific claims to objective truth. Some saw climate science as corrupt, in that they believed climate scientists exaggerate the scale of the problem in order to gain funding and notoriety. Climate change is an "absolute money-spinner" for scientists, according to Oliver. Others described the problem as lying in the politicisation of science, either seeing climate scientists as part of a left-wing 'club' of intellectual elites, or believing that worst-case scenarios were being presented in order to advocate for particular policies. A separate storyline is that other forms of knowledge are degraded in scientific discourse. For Henry, there is no access to truth except through God, and so scientific claims of objectivity are hubris. The Hobart Values Survey did not specifically address attitudes to science. One question asked whether participants thought it would be preferable to "wait for more scientific certainty on climate change before we take action." The mean response for concerned respondents was between 'strongly disagree' and 'disagree', while the mean response for unconcerned respondents was neutral: between 'somewhat disagree' and 'somewhat agree'. This does not suggest that negative attitudes to science are very strong motivators for unconcern, although the question does allow for someone who feels, like Oliver, that climate science is corrupt, to disagree on the basis that it would waste more money on unhelpful scientific research. While there is no significant correlation between religious commitment

and concern or unconcern about climate change, a statistically significant positive correlation[1] was found between religious commitment and wishing to wait for more scientific certainty before taking action. This may indicate a perceived disjunct between scientific and religious forms of knowledge.

Technological development is not progress: This narrative speaks to the late modern phenomenon of manufactured risk, in that it suggests that innovations in science and technology have not been altogether beneficial to humanity. It was not embraced by all of the interview participants, but does have an important role in understanding unconcern. Henry described a social conversation he had had in which mobile phones were held up as a symbol of progress. His response was that this was "a joke", because his conceptual framework for progress is moral, not technological. Technology, in his view, has made it harder to live a moral life. Hannah is also uncomfortable with the culture of materialism that is the product of technological development: "I just wonder if it will reach a point where people will suddenly wake up and realize that all these *things* are not what's going to make you happy, and fall back to something more fundamental." This narrative suggests post-materialist, self-transcendent values that are more often linked to climate change concern than to unconcern (e.g. Kim and Wolinsky-Nahmias, 2014). This cultural narrative is an example of an overlapping narrative shared by citizens with divergent perspectives on climate change. Similarly, the existence of overlapping values was evident in the Hobart Values Survey, which showed that while those who were unconcerned about climate change prioritized self-transcendent values (such as care for others, equality, responsibility, benevolence) significantly less than the concerned, on average they nevertheless rated self-transcendent values as more important than all other values.

Analysis

Several of the unconcerned participants in my study expressed the cultural narrative that science does not represent objective truth, particularly in relation to climate science. This is a direct resistance to the dominant narrative that *climate change is a scientific fact, and therefore demands action*. In this narrative, scientifically derived facts are separated and privileged above all other forms of knowledge. Science is credited with an externalized objectivity, a 'God's eye

[1] Spearman's rho 0.17 $p<0.001$, see Appendix II.

view' (Haraway, 1988) that gives it ultimate authority for interpreting the scope and meaning of risks. Those who are concerned about (and those who advocate action on) climate change do not tend to question the narrative that risk can be objectively defined by science. They are more likely to accept the framing of the scientific discourse on climate change, and trust that scenarios produced by climate scientists are legitimate forecasts of an uncertain future (Leiserowitz, Maibach, Roser-Renouf, Smith, et al., 2012; Lewandowsky et al., 2013). They are also likely to claim that they are making rational assumptions and decisions based on objective fact, as revealed by scientific method (Kahan, Peters, et al., 2011). A social constructivist inquiry throws scientific objectivity into question, as scientific knowledge claims are understood to also be social, defined and limited by their time, place and frame of reference (see Chapter Two). It is interesting that while participants in this study had, on the whole, modernist perspectives on nature, their narratives about science could be considered late modern, in that they have no trouble in inferring the social context of scientific claims to knowledge. Neither do they wholeheartedly accept the dominant modern narrative that technological innovation is central to progress and humanity's ability to solve ontological challenges. With respect to science and technology, which have problem-defining power in the discourse on climate change, in that they currently define the problem, the unconcerned are open to seeing the socially constructed properties of scientific narratives of climate change. I suggest that this opens an opportunity, in confronting global risks such as climate change, for challenging and re-imagining the structures and practices of modern societies through dialogic and reflexive conversation, as I discuss further in section 10.4.

10.3.3 Narratives about self-in-the-world

The climate concerned are a tribe of 'others': Most of the interview participants saw the dominant narratives of climate change as belonging to a 'green' or environmentalist identity. None of them identified as green themselves, and several of them saw green identity in opposition to their own social identity. Margaret described Green party politics as anathema to her former Christian church. She said that openly voting for the Green party would have necessitated her leaving the church. Although she notes that "it's not like you can look back on the Bible and go, 'God said there is no climate change'," concern about, and belief in climate change is part of a package of cultural narratives embedded in green identity. Therefore, in othering green identity, the members of Margaret's church must necessarily doubt, or be unconcerned about climate change. Similarly, green political identity is seen as oppositional to right-wing group membership. As Neil put it: "it is inbuilt into our political culture that if the Greens

are on one side, the Liberals have to be on the other." Doug, who belongs to a left-wing 'working class' social group, also sees the Green party as other, saying that he hates their politics, because "the Greens don't think about the masses". Part of the discomfort that some participants described in relation to green identity related to a perception that it is an activist identity. Hannah described people at a climate change rally as relatively small 'mobs' with 'louder voices' than the more civilized majority. There is an element of divergent ideology in these evaluations of Green party politics. However, the fact that unconcerned interview participants dissociate themselves not only from narratives of climate change concern but from a whole suite of cultural narratives seen as belonging to green identity suggests that this othering of green cultural narratives is primarily social. While I deliberately avoided asking about political orientation in the Hobart Values Survey, the social division between citizens who are concerned and unconcerned is evident in their differences on many measures. These differences suggest divergent social realities for the concerned and the unconcerned. In my study, I asked questions relating to values, rather than politics, in order to be able to paint a more nuanced picture of the differences between them. However, current cultural narratives are most often framed around political difference, rather than differences in values or experiences, as the interview participants' association of green identity with climate change concern attests.

Climate change policies undermine economic freedom: Opposition to policies that limit existing economic prosperity and freedoms are part of several storylines. These connect personal freedom to thrive in the existing economic system with the freedom of the Australian nation-state to use and sell fossil fuels. These storylines are also associated with individualism, and discomfort with forms of regulation that limit individual choice or freedom to act in particular ways. In the Hobart Values Survey, this comes through in strong commitment to values of freedom and self-direction in the unconcerned group (see Chapter Five). Gerald describes Australia's continuing consumption of fossil fuels as "making the best of what you've got". Oliver argues that Australia should not act to reduce greenhouse gas emissions, because it will have a detrimental impact on our economy, without making an overall difference to climate change: "if we wind up our costs here enormously, and the Chinese keep pumping out bloody massive amounts of pollution, what benefits the world?" The storyline of a right to thrive through fossil fuel consumption is extended to people in other countries through an appeal to equality. Gerald says: "you can't turn around to another country and say, look at us we're

really rich, so you're poor but we don't think you should do that." In this way, he justifies profiting from the sale of fossil fuels to countries like India and China.

I have no power to affect what society does about climate change: In the Hobart Values Survey, people who were concerned and unconcerned about climate change had statistically significant differences in their perceptions of their own ability to influence decisions on any public issue that affected them, at local to national scales (see Appendix I for statistical tables relating to this finding). On average, people who were unconcerned about climate change felt they had less influence at all scales than was reported by people who were concerned. Three somewhat different sets of storylines attest to a lack of power felt by some interview participants, making them feel that concern, or action on climate change is unmanageable. The first are fatalist storylines that see climate change as natural or inevitable – in that nothing can conceivably be done to change the outcome. The second, and more common among participants in this study, are storylines that argue for non-responsibility. For some, a sphere of moral responsibility centred on their immediate family does not extend to people outside of their social group. For Lana, putting almost all public issues outside "my sphere of anything that I can do anything about" is a form of self-protection. Abrogating her obligation to vote, she says she likes "just not having the responsibility." Climate change is a problem for experts to deal with, she feels: "I just trust that the scientists are doing their thing because it's beyond my scope." Others, like Doug, feel a greater sense of responsibility, but argue that their ability to make a difference has been impeded by current social structures: "I don't think I'm in a position to help […] until the powers that be want to do something no one can do anything." For Gerald, powerlessness extends to the nation-state of Australia: "the amount of pollution we put out is so minimal compared to these other massive countries that what we do here in Australia will have very little effect." A third set of storylines argue that participants cannot contribute to this discourse because their opinions on climate change diverge from the norm of obedient acceptance, leading them to be excluded from discussion. These storylines were used by more sceptical participants. Henry describes how the social norm of concern disempowers him "because if you're kind of agnostic about something and you're trying to understand it you can't – it's hard to make headway." Oliver argues that current discourse excludes divergent perspectives on climate change in a way that is undemocratic: "people should be free to disagree and, in fact, encouraged to disagree."

Analysis

That concern about climate change is identified as belonging to social groups that are judged as 'other', and even oppositional, to the unconcerned, is in part a reaction to climate activist narratives. Hannah's reference to climate activists as people with 'loud voices' describes the passion, commitment, and righteousness that often characterizes narratives of climate change concern. These narratives are often black and white, with no 'grey areas' – they set up the problem of climate change as clear and scientifically defined, and often story care for the environment in opposition to 'greedy' corporations or selfish and short-sighted governments. They also often demand personal action. An example of an activist climate change narrative would be *divest from fossil fuels to save the environment*. A common claim by those involved in activism is that these movements push the frontiers, shifting the consensus of public discourse in a particular direction. As an example, Schifeling and Hoffman (2017) find evidence that by demanding divestment from fossil fuels, Bill McKibben's 350.org activist movement has had the effect of giving increased attention and legitimacy to other forms of climate policy, such as a carbon tax. However, the success of such movements in creating political openness to change also generates opposition and counter-movements that contribute to polarization (Meyer and Staggenborg, 1996).

In the minds of most of the interview participants, activism and environmentalism were strongly connected through the politics of the Australian Greens party. This connection may be particularly strong for participants in this study because of the history of the green movement in Tasmania. As I argue in Lucas and Warman (2018, Appendix I), a series of environmental conflicts in Tasmania has led to the formation of discursive ruts that perpetuate oppositional storylines and discourse coalitions. Despite the opportunity for Tasmania to benefit from climate change policy as a provider of renewable energy, many Tasmanians express sceptical forms of unconcern about climate change because it is discursively linked to activist environmentalism. Sharing cultural narratives that are opposed to environmentalist narratives, individuals perform and reinforce their social identity as not-green. Storylines and narratives that prioritize economic interests are one such set of cultural narratives often opposed to green identity. Storying the economy as natural and foundational allows the unconcerned to mobilize economics as a means of creating culturally legitimate modes of rationality (while foregrounding climate science allows the concerned to claim rationality in the debate). Economic cultural narratives of climate change used by the unconcerned stress the need to give people the freedom to thrive, through the use of natural

resources. These narratives are at the heart of right-wing identities and worldviews that prioritize giving individuals the opportunity to make their own way in life, as opposed to more left-wing narratives that prioritize caring and nurture of both nature and humanity (Hochschild, 2016; Lakoff, 2002).

The social organization of silence on the subject of climate change is another way in which climate change is discursively managed (Norgaard, 2011). The way the issue is silenced in social conversation was evident in the almost complete absence of discussion about climate change in the first four interviews I conducted with each participant. Over this series of interviews, discussion ranged over broad and global public issues of concern, during a time when climate change was often in the news because of the upcoming UN FCCC meeting in Paris. Only one of the nine interviewees introduced climate change into the conversation (in order to describe his opposition to a student climate protest). In the fifth interview, when I asked about participants concerns in relation to nature, no participants mentioned climate change until I asked a specific question about it. Not talking about climate change may be unsurprising in those who are unconcerned about the issue. However, as Norgaard (2011) suggests, it may not only represent lack of personal interest, but a collective abrogation of responsibility for discussing and coming to terms with the problem. Collective silence leaves no room for exploration or reflection on narratives of climate change. In an environment where climate change is a taboo subject, group narratives therefore go unchallenged, to be unreflexively reproduced in the unlikely chance that an opinion on climate change is required.

Cultural narratives of climate change concern stemming from social marketing approaches to climate change communication often make reference to individuals' personal responsibility to take action, for example to reduce their own 'carbon footprint'. These narratives of 'small steps' that individuals can take conform to what Beck describes as the 'systemic individualization' of risk in modern societies. Feeling powerless to affect climate change is a common experience for many people – concerned and unconcerned – in a society where the systems and practices of everyday life, in the form of work, transport, and access to food, for example, are systemically entangled with fossil fuel use (Norgaard, 2017). As Randall (2009) notes, there is a disjunct between often frightening and grief-inspiring narratives about the impacts of climate change, and narratives asking individuals to shoulder responsibility through small, apparently ineffectual steps such as using energy efficient lightbulbs, or taking the bus. While some of the interview participants described taking small personal steps toward sustainable living, overall, citizens who were unconcerned about climate change felt

they lacked the power to influence any kind of socio-political change. This sense of powerlessness may reflect a more individualized attitude than might be present in a concerned public who are more likely to take collective citizen-led action through signing petitions, attending rallies, or becoming involved in a community garden, for example.

For individuals like those in my qualitative study, who tend to be socially conservative, and see themselves as not-green, the prevalent political narratives about climate change suggest that it is exaggerated, or at best secondary to economic concerns. In order to connect with citizens who are unconcerned about climate change, the issue needs to be re-politicized in ways that speak to human, rather than environmental concerns, and that offer alternative narratives of systemic change to those preferred by the green movement, as I will explore in section 10.4.

10.3.5 How representative are these narratives?

While each of these cultural narratives are, for my participants, couched in the context of life in Hobart, they have broader resonance, particularly within affluent western democracies where lifestyles are in large part supported by wealth from fossil fuels. The unconcerned participants in my study have analogues all over the world – wherever there are socially conservative, or politically disengaged, or economically libertarian, or traditionalist Christian social groups. While I do not claim that the narratives elicited in this study are comprehensive of all narratives of unconcern, they resonate strongly with the findings of other studies internationally.

To illustrate this, I bring the cultural narratives that have emerged from my research into conversation with those from two other in-depth studies of lived attitudes to climate change – Norgaard's (2011) ethnography of the people of Bygdaby, Norway; and Hochschild's (2016) study of the working class right-wing populations of Louisiana, USA. Both of these studies take place in provincial areas where 'nature' – the bayou of Louisiana and the snowfields of Bygdaby – is close at hand, much as the forest and mountains of Tasmania provide a backdrop to life in Hobart. In Norgaard's study, very visible effects of climate change to natural landscapes are both noticed, and ignored, in what she describes as a 'double reality' of self-protective ignorance. One Bygdaby teacher worries that telling children about environmental problems is "taking nature away" from them (Norgaard 2011 p102). This echoes the narrative from my study that sees nature as stable and dependable – although in a form that suggests the teacher sees this as a fairytale that children must eventually outgrow. Norgaard's work

suggests that clinging to such narratives is, for some, a socially organised defence against uncomfortable knowledge. In Louisiana, where the oil and gas industry is literally at residents' back doors, Hochschild (2016, p77, italics in original) reports a narrative in which "you must *choose between* jobs or a clean environment". This is evocative both of narratives of nature as a resource present in my study, and also narratives that set economic freedoms in opposition to climate policy and action. In each of these studies this opposition is also subject to ambivalence – in the same way that Gerald describes 'one side' of himself that cares about the environment, and another that is happy to profit from oil companies because 'someone has to do it', some of Hochschild and Norgaard's informants express not 'feeling good' about a choice between environment and lifestyle.

In Norgaard's study there is less of a sense of a divided population in which the climate concerned are seen as a tribe of 'others' by the unconcerned. However, the participants in Hochschild's study do feel that a long line of 'others', including women, immigrants, refugees, black people and environmental causes are getting preferential treatment, and this causes anger and hostility. In neither society does communication about climate science affect people's day-to-day thinking or decisions, climate change is present but unspoken, as with participants in my study. Feelings of powerlessness are also evident in narratives from each of these studies. In Bygdaby, perceptions of powerlessness to affect climate change underpins a kind of false optimism in social interactions; while in Louisiana, members of the working-class right threw themselves in with powerful industries as a means of self-preservation. In each of these studies, as in my own, powerlessness leads to a sense of inevitability about varying forms of negatively perceived change. There is therefore a strong need for a new model of climate change communication able to empower citizen-led deliberative change.

10.4 Challenges and opportunities for climate change communication

The analysis of the cultural narratives of climate change in this chapter contributes to a response to Val Plumwood's (2009: 113) call for a "thorough and open rethink" of how we communicate about climate change. Plumwood suggests that such a rethink should involve a rejection of reductionist thinking, and a willingness to question the underlying cultural narratives that provide a framework to our definitions of the problem. In this thesis, I have investigated the human values, social worlds and lived experiences that shape the ways in which people respond to messages about climate change. I have argued that current forms of communication about climate change are too narrow; both in the way they frame the problem

of climate change, and in the publics they consequently engage. In this concluding section of the thesis, I employ the findings of my inquiry to map out some potential ways forward for climate communication, asking the question:

What model of climate change communication could genuinely engage with the diverse publics and divergent narratives of climate change described in this thesis?

To answer this question, I first describe the challenges that such a model of climate change communication would need to address. I then suggest the attributes that such a model would require, before outlining some specific ways in which this could potentially be achieved. By a 'model of climate change communication' I mean the combined content, structure, processes, people and technologies mobilized to communicate about climate change. I note that grouping the diverse modes of climate change communication together as a single 'model' is a conceptual device that is limited in its suitability for examining the context of the different ways in which climate change communication takes place. However, with this caveat, it does allow some generalizable lessons to be drawn from the research, which I then apply to the discussion of specific modes of communication below.

Challenges posed by the existing model

In Chapter One, following Maeseele (2015) and Carvalho et al. (2017), I described four forms of climate change communication: deficit models, social marketing approaches, top-down public participation, and citizen-led public participation. All of these except citizen-led approaches aim to stimulate consensus in some form, and as such are often exclusionary, in that they represent narrow definitions of the problem, its impacts and potential ways forward. These problem and solution definitions – based on scientific assessment of risk (narratives that present *climate change as a scientific fact*), predominantly environmental impacts (narratives of *threatened nature*), and a limited range of responses through intergovernmental agreements and energy transitions (that challenge narratives of *economic freedom*) – do not make sense to all publics. By framing this set of understandings and responses to climate change climate change as the only pathway to concern and action, communication has contributed to polarizing the debate (Sharman and Howarth, 2016). Narrowly defined cultural narratives of climate change concern lead to the formation of oppositional discourse coalitions, that can fall into the ruts of previous environmental conflicts (Lucas and Warman 2018). This anti-reflexive process perpetuates polarizing cultural narratives, promulgated through storylines linking them to particular identities. Polarization may have benefits for the

electoral prospects of political parties, but further limits the opportunities for meaningful democratic engagement about climate change.

Advocates of climate change action often describe their work as a fight against vested interests that profit from maintaining the *status quo* (e.g. d'Ancona, 2017). Publics who are unconcerned about climate change are portrayed as victims of misinformation by powerful conservative interest groups – the 'merchants of doubt' (Oreskes and Conway, 2010), or as the perpetrators of such misinformation. While these anti-reflexive groups seek to undermine public support for climate change policy (McCright and Dunlap, 2010), it is an over-simplification to suggest that the unconcerned are passive or unwitting victims of the narratives pushed by interest groups. Casting the unconcerned as victims undermines their agency, and their right to democratic participation in the debate. As I have shown in Part III, the reasons people take up certain cultural narratives and not others are complex, variable, and driven by their lived concerns, values and experiences. Reductive forms of research that categorize the unconcerned into 'types' in order to market consensus climate change narratives to these groups miss the opportunity to engage in more rich and dialogical conversation and social learning based on an understanding of their values and concerns.

While polarization about climate change is generally thought to conform to a Left/Right binary, my study found that many attitudes to climate change are poorly explained by this dualism. Seeing unconcern as a right-wing attribute fails to account for the diverse political beliefs of citizens for whom existing cultural narratives of climate change concern ring false. This includes, for example, advocates of working-class rights who distrust the authority of science together with the authority of big business; advocates of free-marked liberalism who are also sceptical of technological progress, and people who are disengaged with all forms of politics.

The current model of climate change communication is also unable to deal with the problem of implicit trust in the systems and practices that support everyday life, which as I argued in Chapter Three, appear to underpin much resistance to narratives of climate change concern. Implicit trust is necessary to avoid the existential toll of considering the implications and impacts of every action of one's life. However, it is anti-reflexive, in that it fosters an organized silence about aspects of climate change that might threaten the *status quo*, allowing one to continue day-to-day life without considering the implications of this trust. Currently, scientific narratives of climate change provide a blunt challenge to implicit trust in late-

modern societies, by revealing the ecological cost of so many of the systems and practices of everyday life. Ironically, the difficulty of making systemic changes prompts many individuals to rely on carbon-intensive practices of risk management to shore up their personal security through private wealth creation and consumerism. Globalized capitalist systems of production and consumption have the effect of distributing their negative effects to particular places – most often less-affluent countries – while amassing benefits within wealthier places (Beck, 1992). In both the survey and qualitative inquiry, I found that limited boundaries of perceived moral responsibility were a feature of several unconcerned participants in the study. This was described through cultural narratives of powerlessness to affect change, narratives that other those outside the social group, and narratives that insist on local economic rights. Limiting their moral horizons allowed people to feel virtuous and secure within a localized context, and avoided the need to address questions relating to their part in systems and practices that affect people from other parts of the world.

Attributes of an inclusive model of climate change communication

I have argued that it is not in the public interest for climate change to be seen as a problem that is 'owned' by a limited section of society. The goal of climate change communication, rather than increasing concern about climate change, should be increasing citizenship in relation to climate change. The means to achieve this is the act of communication itself. Processes of reciprocal dialogue between communicators and publics have the potential to create new collective networks, and new fora in which existing cultural narratives of climate change can be contested, new narratives developed and publics made and remade. This would be a development of the role of climate change communicators drawing on, and extending existing citizen-led approaches. In order to facilitate climate change citizenship effectively across diverse publics, **climate change communication must be pluralist and reflexive**. Being pluralist about climate change means accepting that there are diversity of legitimate ways of understanding what climate change means, and of responding to this understanding. Pluralism requires a challenge to the cultural narrative that legitimate understandings and responses to climate change must be based in scientifically sanctioned fact. Reflexivity involves transparency and self-reflection about the context of one's own cultural narratives and assumptions, and openness to exploring different ways of understanding and engaging with climate change. In this new model, climate change communicators would facilitate conversation and broker relationships between groups and individuals, and build networks and coalitions across diverse publics based on a recognition of shared values and practices.

Their focus would not be on persuading people about the necessity for prescriptive forms of action, but on creating an engaged polity with the capacity for open, innovative and inquiry-based deliberation. Re-defining the goals of climate change communication to involve facilitation of social learning through connection, conversation and citizenship has the potential to free climate discourse from the ruts created by current cultural narratives. If citizens are given the opportunity to reflect on the ways in which their lives are implicated in the social and material processes of climate change, they may re-evaluate the usefulness of current cultural narratives, and develop new storylines that open new possibilities for social learning and transformation.

In this pluralist and reflexive model of climate change communication, the lay knowledge of citizens who are unconcerned about climate change would be taken seriously, as a valid, substantive and useful contribution to the discourse. This could enable advocates of action on climate change to move past the barriers created by current power dynamics and enable meaningful negotiation around the contested meanings and responses to climate change. Eschewing a universalizing narrative of climate change, polycentric acts of communication could allow new cultural narratives and discourse coalitions to arise legitimately from diverse lived contexts. These narratives would have clearer relationships to the places and social experiences of different publics, and would thus better represent their values and attitudes. Through acts of communication that engage people as citizens in reconfiguring the cultural narratives of climate change, communicators have the opportunity to re-politicize climate change: building new publics and networks able to deliberate, negotiate and participate in politics at all scales. In this way, publics could, as Beck (2016) suggests, and as I discuss in Chapter Two and in Lucas and Warman 2018 (Appendix I), use the opportunity offered by the challenge of climate change to transform existing systems through an engaged process of reflexive modernization.

How might a pluralist reflexive model of climate change communication be achieved?

If climate change communication were to be re-modelled in the manner described above, what would that entail? In the spirit of Plumwood's "thorough and open rethink", I draw on this study's findings to offer some tentative suggestions for implementing a reflexive and pluralist model of climate change communication.

Most importantly, climate change communicators must see themselves as listeners and learners involved in a dialogue with citizens about climate change. This requires a step back

from their own goals in relation to climate change, in favour of more reciprocal forms of communication that begin by asking questions about the values and priorities of the citizens with whom they engage. Building engaged citizenry is not a 'quick fix' – as a consequence of putting the values and priorities of publics first, climate change may need to emerge later in the conversation.

A reflexive, pluralist model of climate change communication must reject deficit models of communication (as described in Chapters Two and Eight). In this model, the role of climate change communicators is not to disseminate information, provide education, or attempt to persuade publics toward particular definitions of the issue or particular solutions. Climate change communicators would instead develop engaged citizenry, enhancing capacity for democratic deliberation through empowered processes of dialogic communication in a variety of fora (Hobson and Niemeyer, 2011). There is a need to be innovative about the constitution of different fora for engaging citizens. New fora for communication may emerge from local, situated conversations, from social networks and new media, or from innovative approaches in existing fora. However, it is important that these approaches take a bottom-up, rather than top-down approach to public participation, avoiding the trap of legitimizing certain publics and cultural narratives while excluding others. The fora for conversations about climate change must be diverse, polycentric and polyscalar, in order to represent plural understandings and potential responses to climate change. Within these multiple fora, the role of climate change communicators would be to empower citizens to communicate, to facilitate reflexivity around existing assumptions and cultural narratives, and to encourage respectful connections between citizens with different views.

An example at a global level, of how these fora of climate change communication could be implemented, is through the UN FCCC process. As Nobel Laureate Elinor Ostrom (2009) argues, single policies based in narrow problem definitions, such as the agreements reached through the UN FCCC process, are unlikely to generate enough public trust for effective collective action to mitigate climate change. Rather than privileging scientific problem definition through the existing IPCC structure, communication could be envisioned as the heart of the IPCC. Its central role could be to facilitate deliberation and negotiation between the diverse groups and interests that currently participate on the margins of UN FCCC meetings, but who could be invited inside what is currently a closed-door process of negotiation between scientists and government policy-makers. A further change would be a shift from the politics of consensus to forms of debate and deliberation that do not require

agreement on a narrow set of terms, but rather accommodate diversity of values. This involves re-orienting such processes from a basis in fact towards a broader engagement with matters of concern. For climate scientists, there are benefits in the IPCC no longer being seen as an over-arching umbrella organisation for climate science. As I discuss in Chapter Three, the current IPCC resembles the older power-structures of modernity such as the church, or the major political parties, rather than the smaller, networked and adaptive social structures that are emerging in late modern societies. The ability of climate science to engage reflexively, both internally and with different publics, would be enhanced by a more diverse and networked structure, which would be able to prioritize engagement over consensus.

These fora for climate change communication need to be less insular spaces than the polarizing echo-chambers that tend to emerge through current forms of discourse in which group-based narratives and identities are reinforced through isolation from counter views. Where discourse coalitions become homogenous, climate change communicators should seek to connect them with others through shared values or networks of trust. The aim would be to network these coalitions, and in doing so to introduce difference and reflexivity to avoid polarization. Climate change communicators may find that sharing different ways of thinking, rather than arguing for a specific response or simply giving information, make it possible for people who are positioned through different cultural narratives to be reflexive about the social construction of these narratives. Where some views inevitably conflict, communicators could seek opportunities for agonistic forms of learning and engagement (Mouffe, 1999).

Climate change communicators need to engage with the issue of implicit trust in existing systems and practices that contribute to climate change. This form of trust underpins the dependence of individuals on climate-changing technologies and behaviours. Being reflexive about their own implicit trust in existing systems may help climate change communicators to acknoweldge that they themselves are implicated in these systems, and to engage empathetically with others who perpetuate carbon-intensive lifestyles. To engage with people who are unconcerned about climate change, communicators should be mindful of threats to the ontological security of individuals. As O'Neill (2009) and others have shown, narratives that evoke fear of change are unhelpful, and may especially so for sections of the unconcerned who have socially conservative values. However, I suggest that climate change communicators may find that cultivating interdependent, dialogical relationships with the publics they seek to engage, as I did in my qualitative study, may help to restore trust with and between

members of divergent social groups. There is also a role here for empathy: acknowledging the losses and sacrifices that are entailed in changing policies and lifestyles, as well as those of people affected directly by changing climates, has the potential to dissolve discursive deadlocks (Dolsak and Prakash, 2016).

A further goal could be to engage in conversations that expand people's horizons of moral responsibility, taking social responsibility for what Plumwood (2008) calls 'shadow places' – places that economically and materially sustain lives and lifestyles in wealthy nations, but are systemically hidden, unable to make claims on those they support. In response to the challenge of existing political support for the *status quo*, climate change communicators could help to broker new polyscalar fora in which lay publics renegotiate the legitimate sphere of politics, becoming empowered to negotiate and make decisions in relation to resources and policies that affect them. An example of the potential for such negotiation is the case of forestry in Tasmania, where public appetite for continued logging of native forest has dwindled since the forestry industry and environmental movement made the decision to negotiate an agreement external to government policy (Lucas and Warman 2018).

10.5 Conclusion

In this thesis, I have investigated why current processes of climate change communication are failing to effectively engage some sections of society, by focussing on the lived experience of being unconcerned about climate change. This study has contributed new and original knowledge about the active, social and discursive processes through which people become unconcerned about climate change. I have situated the study in light of theoretical understandings of late modernity – a period in which modern systems and social structures are subject to erosion and transformation in consideration of major global risks such as climate change. I have shown how modern understandings of nature as scientifically defined, and as a resource, are embedded in much existing climate change communication focussed on generating consensus. Deficit model, social marketing and top-down public participation approaches to climate change communication also foster the institutionalized individualization of risk. These consensus approaches are based on the premise that there is an objectively measurable truth about climate change. Such narrow framings of climate change contribute to public polarization, and a loss of trust in communicators of climate change. By 'othering' people who do not accept current cultural narratives of climate change concern, and continuing to see the role of climate change communication as persuading and

educating, rather than listening to and empowering publics, many communicators exacerbate this polarization.

Taking a social constructivist approach has enabled me to develop a form of engagement with people who are unconcerned about climate change that is respectful of difference, and of my positionality as a researcher of this difference. While the basis of unconcern in political affiliation and ideology is well established, the approach of this study was to investigate the values and social processes underlying political difference. By revealing the situated nature of people's understandings of climate change, and their dependence on different experiences, discourses and frames of reference, I have shown that there is diversity in people's reasons for unconcern, and in their expressions of unconcern. I have argued that taking these variegated and uneven forms of unconcern seriously requires a reflexive, pluralist model of climate change communication.

Future research could broaden in-depth qualitative engagement with unconcerned publics to larger numbers of participants across Australia and internationally. A further outcome of this research would be to develop a framework for engagement by climate change communicators that enables the form of communication suggested by this thesis. It is important to do this in partnership with communicators, and to test its efficacy in a range of contexts with different publics. Another research direction would be to investigate how networks of trust might enable re-engagement with unconcerned publics.

In summary, I suggest that a polycentric, pluralist, reflexive model of climate change communication has the potential to connect and empower diverse and divergent publics in transformative conversations about the challenges posed by climate change, and the multiple ways we might understand and act on them. This model of climate change communication does not seek consensus, or prescribed forms of action, but political citizenship and meaningful engagement with the issue of climate change. These more inclusive forms of communication are vital to creating an environment in which it is possible to challenge and re-imagine the political, technological and social systems in which we live. In this way, climate change communicators have the opportunity to facilitate not only individual, but collective and systemic change.

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Appendix 1 | Disrupting Polarized Discourses: Can We Get Out of the Ruts of Environmental Conflicts?

Lucas CH and Warman RD (2018) Disrupting polarized discourses: Can we get out of the ruts of environmental conflicts? Environment and Planning C: Politics and Space.

The surface of the earth is soft and impressible by the feet of men; and so with the paths which the mind travels. How worn and dusty, then, must be the highways of the world, how deep the ruts of tradition and conformity!

Henry David Thoreau, (1854: 346)

Abstract

Polarization in environmental conflicts obstructs decision-making at all scales. The Australian state of Tasmania has a history of intense polarization around environmental issues. This article uses a social study of citizens of the capital, Hobart, and a case study of a recent attempt to disrupt polarization about forestry in Tasmania, to develop a novel conceptualisation of 'ruts' in environmental conflicts. Ruts are formed when polarizing social constructs gain a momentum that perpetuates entrenched discourse coalitions and storylines into subsequent issues. This is evident in attitudinal survey results, and in interviews that show how storylines from the forestry debate frame people's responses to climate change. The case study describes negotiations in the forestry conflict that had some success in disrupting these polarized discourses. After the long-term failure of the traditional authorities of government and science to resolve conflict over Tasmania's forests, a sub-political process emerged to directly re-negotiate a shared definition of risk. The study shows that new coalitions of players from outside traditional systems of authority have the potential to disrupt polarized discourses, through the creation of shared storylines. The challenge is to be prepared to acknowledge the legitimacy of divergent values, and to seek framings that sidestep, rather than confront strongly held conflicting values. Insights from this article are likely to be of value for other environmental conflicts, including climate change.

1. Introduction

Polarization is often implicated in impasses in decision-making and conflict over the use of natural resources (e.g. Colvin et al., 2015; McCright et al., 2014). Political polarization is widely blamed for impeding action on climate change (Hart and Nisbet, 2011; Tvinnereim,

2015; Unsworth and Fielding, 2014) as well as issues such as water management (Innes and Booher, 2003) and forest conservation and management (Koning et al., 2013). Disputes over decisions about the environment are particularly polarizing. In the US, polling shows that polarization between people who identify as Democrat or Republican is greater for environmental issues than for issues of hunger and homelessness, healthcare, race, unemployment, immigration, crime, terrorism, social security, drugs or affordability of energy (Guber, 2012). The formation of rigid discourse coalitions[2] can act as a significant impediment to resolving these challenges (Hajer, 1993).

Polarization has been described as an 'overstretched' term in the social sciences (Esteban and Schneider, 2008), and in the political sciences there is a flourishing debate about whether polarization exists (see for example Abramowitz and Saunders, 2008; Fiorina and Abrams, 2008). Nevertheless, as Mason (2014) points out, these debates are immaterial to a public for whom polarization is a real and apparent problem. As it is outside the scope of this article to describe the literature on polarization more fully, we make use of Esteban and Ray's (1994) broad definition of polarization as a systemic attribute of society in which a small number of groups (rather than individuals) become highly homogenized internally, but increasingly different and opposed to each other externally. These polarized coalitions represent dominant and opposing groups within a social discourse, although they may not comprise the whole discourse (Tvinnereim, 2015). Differences between groups can be cultural, political, or based on responses to specific issues, but are always socially constructed.

In this article, we investigate how polarized attitudes formed through disputes over the use of natural resources can affect the social organisation and public understanding of subsequent environmental conflicts. Our study is based in Tasmania, an island state of Australia. We describe how conflict over the use of Tasmania's natural resources has formed 'ruts' –

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[2] *Discourse coalitions* are groups of people who share storylines, interpretive concepts, and practices that conform to these concepts (Hajer, 1993), but may not necessarily share goals, priorities or values (Bulkeley, 2000).

comprised of both discourse coalitions and storylines[3] that emphasize certain values and definitions of environmental risk that persist across divergent issues. We describe how these ruts have perpetuated particular framings of environmental conflict from the dispute over construction of hydro-electric dams in the 1970s and 80s, into subsequent conflict over forestry. In the latter conflict, environmentalists argued for the protection of wilderness and old growth forests from logging, while timber interests argued this logging was necessary for the economic prosperity of the state. We find evidence in a social study of residents of the Tasmanian capital, Hobart, that the ruts present in the forestry discourse persist into the climate change debate, despite significant differences in the issues, particularly for Tasmania. Having described the operation of ruts, we analyse a case study of negotiations that occurred in Tasmania from 2010 until 2012 (hereafter the 'forest negotiations'), that attempted to break out of a polarizing rut and come to a collaborative agreement (see Schirmer et al., 2016 for a chronology of the process).

2. Negotiating risk

Social theorists Ulrich Beck and Anthony Giddens see modern industrial societies as different from the pre-industrial world, in that status and power are no longer based on appeals to forces seen as external to society, such as natural order, tradition or God. Instead status and power are dependent on social relations (Giddens, 1990). The loss of nature external to society is intertwined with the loss of traditional authority (Giddens, 1994). The success of the modern project, and the resulting human dominance over nature, has led to the replacement of natural hazards by risks, or 'manufactured uncertainties' of society's own making (Beck, 1992; Giddens, 1994). In the risk society, the production of wealth from natural resources is inherently tied to the social production of risks (Beck, 1992). These risks can no longer be scientifically measured or rationally calculated, because risk is not an objective reality but a socially constructed response to complex and unknowable possibilities (Beck, 2016). Where multiple and diverse claims to knowledge and legitimacy exist, experts no longer have the power to end disputes (Beck et al., 2003). Public perception has become the ultimate court

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[3] Following Hajer (1993: 47), we use the term *storyline* as 'the medium through which actors try to impose their view of reality on others, suggest certain social positions and practices, and criticize alternative social arrangements'.

of decision-making, and power lies with whoever sets the storylines for the debate to best suit their agenda. In Beck's terms, polarized debates over environmental resources, such as that over forests in Tasmania, are 'risk conflicts', in which different groups compete to define risk (Beck, 1992).

Thus, we argue, disputes over natural resources become sites of social power, and coalitions form around particular sets of values and identities, to attempt, through discourse, to create the most coherent and accepted definition of the risk. Ruts are formed when entrenched discourse coalitions and storylines gain a momentum that enables them to persist over time, and to move from one issue into subsequent issues. The way the initial risk conflict is framed forces members of a discourse coalition to take a particular side on a subsequent issue. Thus these coalitions and storylines become polarizing social constructs. The term 'ruts' is used to describe the power of these constructs to sustain themselves through time and across diverse issues. It helps explain public responses that can appear to be irrational given the context of the issue. Ruts perpetuate biases and prevent critical self-reflection. They are therefore counter to processes of 'reflexive modernization' (Beck, 1992; Beck et al., 1994) through which, Beck, Giddens and Lash argue, late modern societies confront the social and environmental consequences of industrial capitalism. We draw on the concept of reflexive modernization to investigate to what extent Tasmania's forest negotiations enabled the disruption of a polarizing rut.

As traditional authority and expertise faces a crisis of legitimacy, Beck argues that mainstream politics must give way to a sub-political sphere. Beck defines the sub-political as a form of politics beyond the representative political institutions of nation states, in which 'agents *outside* the political or corporatist system are allowed to appear on the stage of social design' (Beck et al. 1994 p.22, italics in original). Sub-political negotiations are part of an emergent decentralisation of politics in which expert systems become open to contest by the lay population (Beck et al. 1994). Thus the sub-political breaks down the accepted order of politics-as-usual. It subverts the efforts of mainstream politics that aim, through processes of scientization and consensus, to de-politicize issues such as climate change and reduce them to questions of technical management (Swyngedouw, 2011). On the sub-political stage, environmental problems are re-politicized, opening up a greater range of potential outcomes (Maeseele, 2015). However, this potential for dissensus does not preclude resolution, as interest groups and individuals must negotiate risk definition based on an understanding of their interdependence in resolving the issue. Thus the sub-political space can be a space of

reflexive modernization, and potentially a space where polarizing ruts, entrenched through a history of environmental conflicts, can be disrupted.

3. The Tasmanian experience

In this section we use mixed methods, drawing on a social study of Hobart residents and a case study of the Tasmanian forest negotiations – to analyse how persistent storylines and discourse coalitions have been perpetuated and disrupted in environmental risk conflicts. The research described is part of separate studies by the two authors, investigating social understandings of climate change and forestry respectively. This article uses the two sets of analysis to examine the links between different environmental risk conflicts.

The Hobart Values Survey explored how people's attitudes to climate change interact with their other values and opinions. 522 participants took part in an attitudinal survey. A sub-sample of nine respondents, who responded in the survey that they were unconcerned about climate change, were recruited to participate in a series of repeat-interviews following the survey. Additional detail on the methods and results of the survey are included in the supplementary materials (see also Lucas, in press, Chapter Five). In other work, the interviews have been subject to detailed narrative analysis focussing on participants' attitudes to climate change (see Lucas and Davison, 2018, Chapter Eight). In this paper, discourse analysis is used to examine storylines linked by their presence in both forestry and climate change discourses, as they were related by interview participants.

The case study is based on publicly available accounts of the forest negotiations. In late 2012 and early 2013 the upper house of the Tasmanian Parliament held a Select Committee hearing into the Tasmanian Forests Agreement Bill 2012 as part of its deliberations on the draft legislation. This included 12 days of hearings in 2013 and receipt of over 130 submissions. The transcripts of these hearings and the submissions are publicly available documents and a primary data source for this study. Other publicly available documents were also used. Discourse analysis of this corpus was guided by a combination of keyword searches and the authors' prior knowledge of the process.[4] Analysis was conducted in the context of

[4] One author, Warman, worked as policy analyst for the three environmental organisations involved in the forest negotiations in the years 2009-2013.

answering two questions: what were the significant conditions that made the process possible; and how did the process impact or disrupt polarized discourse coalitions?

3.1 Falling into ruts

In the 1960s, 70s and 80s intense controversy occurred around the creation of hydro-electric dams in Tasmania's southwest. A hegemonic discourse coalition of business, government and technocratic bureaucracy emerged from the controversy (Buckman, 2008; Hay, 1991). The southwest, an area of mountains, dense forest and fast-flowing rivers previously characterized as threatening and dangerous, was re-framed by the *resource development discourse coalition* as an economic cornucopia (Haynes, 2003). A reactive *conservation discourse coalition* led by environmental non-government organisations (ENGOs) and the embryonic Tasmanian green political party promoted a different vision of the southwest, as a place of nature free from human exploitation. It was at this time that the term 'wilderness' started to be used, standing for the emotive defence of intrinsic natural values threatened by resource development (Lester, 2005). In response, the resource development discourse coalition promoted storylines emphasising Tasmania's need for economic growth and jobs. One of these was that 'balanced use' of the state's natural resources was required for the wellbeing of Tasmanians. A car bumper sticker by the 'Give it Back' group illustrated this by showing a set of scales balanced on the island of Tasmania, with the scales tipped heavily toward 'conservation' and away from 'common sense'. A related storyline talked of opposition to 'locking up' the southwest (and any natural resource). This suggested that protection of areas impinged on the freedom to use natural resources, framing the latter as a right that was denied by acts such as creating national parks.

In the 1980s, the same storylines were adopted by a mix of new and old players in the growing controversy about logging of Tasmanian forests (Gale, 2013). The timber industry cultivated bipartisan support from the two dominant political parties in the state, maintaining a similar hegemonic discourse coalition to that which had developed over dams. We suggest that the players 'fell' into the ruts that had been formed in the debate about dams.

The dams and forestry disputes are linked in that they are conflicts over the protection or development of the island's natural resources and landscapes. It is therefore not surprising that the same ruts run through these conflicts. However, the debate over climate change is quite different. While Tasmania's natural landscapes are threatened by global warming, especially through increased risk of bushfire, flood and coastal inundation, and changes to the

marine environment from the southerly extension of warm ocean currents (Grose et al., 2015), so are the state's communities, industries and economy, in particular key sectors of agriculture and fisheries (Grose et al., 2015). In addition, Tasmania's position as a user and supplier of renewable energy in the form of hydro-electricity (from dams supported by the resource development discourse coalition), means that the island state is well-positioned to benefit from prioritization of climate change mitigation policies. Australia's short-lived carbon pricing scheme introduced through the Clean Air Act in 2011, for example, generated AUD$70 million profit for state-owned power generator Hydro Tasmania in 2013 (Robins, 2013). The logic of economic development (a central storyline for the resource development coalition) would lead us to expect that people who support the forestry industry would also be likely to express concern about climate change (and support for mitigation) because of this alignment of interests. However, local contexts provide only part of the picture, and especially in the case of climate change, are not sufficient to fully understand the nature of polarization.

3.2 Evidence for 'ruts' from the forestry conflict persisting into climate change discourse

Quantitative and qualitative data from the Hobart Values Survey were used to investigate whether membership of polarized discourse coalitions around forestry might affect people's attitudes to climate change. The survey showed that there was a statistically significant difference in levels of concern about climate change between people who believe that forestry is one of Tasmania's most important industries, and people who believe it is the single least important industry. A Mann Whitney U test showed that pro-forestry respondents were on average only 'a little' concerned about climate change (Median=3:'a little', n=79), while anti-forestry respondents were on average 'very' concerned (Median=5:'very', n=153) U=2370 z=-7.1 sig=.001 r=.48 (a strong effect).

Given the link between polarization about forestry and climate change suggested by this evidence, we sought to understand whether the factors underlying membership of polarized discourse coalitions were similar, or different for the two different environmental risk conflicts. Using binary logistic regression we examined whether demographic factors or personal values (Schwartz, 1992) help to predict the likelihood of being pro-forestry vs. anti-forestry (n=197), or of having very high levels of concern, vs. unconcern about climate change (n=357). We chose to exclude people who had moderate levels of concern about climate change from the analysis, as we were interested only in those with polarized views (see Lucas in press, Chapter Five, for analysis of the whole sample). Values are principles or beliefs that guide decisions in life and act as standards for evaluation (Schwartz, 1992). For this reason,

the study of values is helpful to understand people's motivations for belonging to certain discourse coalitions, and their reasons for positively or negatively evaluating certain storylines. For a full description of the Schwartz *Theory of Human Values* and its application in the Hobart Values Survey, see Lucas (in press, Chapter Five). Further details of methods and analysis are in the supplementary materials. Results of the two final binary logistic regression models are shown in Table 6.1. Gender, age and level of education were included as controls, but did not have a significant effect in either model (see supplementary materials for full table including demographic controls).

Table 1. Binary logistic regression models to compare values predicting polarized views about forestry and climate change.

	Model 1				Model 2			
	Pro-forestry (cf. anti-forestry) N=197				Unconcerned (cf. highly concerned) about climate change N=357			
Predictor variable	B	Odds Ratio	95% C.I.for OR		B	Odds Ratio	95% C.I.for OR	
			Lower	Upper			Lower	Upper
Universalism: care for nature	-.85	.43**	.30	.62	-2.65	.07**	.03	.17
Security: concern for national security, social order	.57	1.77*	1.17	2.69	1.43	4.19**	1.89	9.26
Tradition	-.05	.95	.67	1.35	1.06	2.87*	1.38	5.99
Power	.24	1.27	.73	2.23	.88	2.41	1.01	5.76
Self-direction	.17	1.18	.79	1.77	2.32	10.13**	3.68	27.86
Constant	-.71				-1.60			
Nagelkerke R^2	0.37				0.70			
Percentage correctly classified	76.0				92.6			

Bonferroni adjusted p* <.01; ** p <.001

The analysis showed a number of shared factors predicting membership of polarized discourse coalitions around forestry and climate change, as well as some differentiating factors. The shared values underlying both support for forestry and unconcern about climate change were revealing. Both are associated with a concern for security and social order. A related prioritization of tradition (significant for unconcern about climate change only) also suggests that a desire to maintain the *status quo* underlies this attitude. Unconcern about climate change was also strongly associated with self-direction – this suggests that prioritizing individual freedoms predicts unconcern about climate change (See Lucas, in press, Chapter Five for a more detailed analysis in relation to climate change.) However, this value was not significant for forestry. Unsurprisingly, opposition to forestry and high concern about climate

change were most strongly associated with care for nature. This analysis suggests differing definitions of what is at risk within the discursive ruts that perpetuate environmental polarization. One evaluation of the risk is the loss or degradation of nature. Another evaluation of the risk is a threat to traditional hierarchies and industries that provide security and stability. A third risk, emerging in the climate change discourse, is that regulation of resource use is a threat to individual freedoms.

Interview data also showed evidence of polarized ruts that link the discourse on forestry to the climate change discourse. Nine participants were selected based on their unconcern about climate change. Interviews were informal, with a mixture of participant-led and interviewer-led discussion. The interviewer did not introduce the issue of forestry into interviews. Five participants introduced the issue of forestry, explicitly describing their support for the forestry industry. The other four did not introduce the topic, or describe having a position on forestry in their interviews. The pro-forestry participants often made connections between forestry and climate change, independent of interviewer questioning. This association provided further support for the idea of ruts.

Discourse analysis of these interviews found that the same set of storylines from the discourses around dams and forestry were used by four of the participants who were pro-forestry when talking about their views on climate change. In particular, these involved questioning the concept of 'wilderness', and describing a need for 'balance' between using and 'locking up' resources – reflecting storylines associated with the resource development coalition. The idea of 'wilderness' was seen as belonging to environmentalist discourse. Oliver, a government advisor, ascribed the success of the wilderness storyline to one man: "Bob [Brown, former leader of the Australian Greens] is probably the most influential character who's been in politics here in 50 years, and he's very effective. But he's believed totally in his wilderness concept, and I think he's sold his message to a point where a lot of people believe it completely." For these participants, the concept of wilderness was troubling, in that it felt suggestive of disorder and lack of human control. "You have to have a balance. You don't wanna be totally overgrown with nature so much so that you're struggling to live in a modern society," (Rachel, retired school administrator). The protection of wilderness was juxtaposed against needs for order and security. Henry, a Christian minister, described his discomfort with the climate change discourse as he saw it as elevating nature over humanity: "I can't accept a view that's very anti-human. [...] I definitely think that we're needed in the system

to cultivate the Earth, to enhance it. To bring out the best in it, to turn a wilderness into a garden."

The same four participants described national parks as 'locking up' areas, rather than as protecting them. This perpetuates a storyline seeded in the conflict over the Franklin Dam. "There's got to be a balance – a balance between using natural resources and preserving them. [...] Society's still got to run and we still need paper and we, you know, we need the products from wood, so you can't lock it all away" (Hannah, retired librarian). Gerald, a business owner, felt strongly that the state's natural resources are public assets that should be used for the benefit of Tasmanians. "I have got to live here, I have got to make a dollar. [...] You can't shut down industry and lock things up so you can sit here in Melbourne and talk about how wonderful the trees are." He explicitly linked the importance of "making the best of what you've got [i.e. natural resources] and trying to use that," to both forestry and fossil fuel industries. "I suppose we could change in the fact that we're selling resources [to China and India], such as coal, but then people living in Australia have to have jobs." Gerald's defence of the coal industry seems somewhat inconsistent with his prioritization of jobs for Tasmanians, given that jobs in the renewable energy industry in Tasmania are more likely to grow if Australia stops producing coal. This is an example of how a storyline that makes sense in the context of one conflict can seem less rational when applied to another. This analysis of a small, qualitative, dataset is again suggestive of a discursive rut linking forestry and climate change. However, further research is warranted to investigate how representative these participants are of a larger discourse coalition.

These analyses show that participants' attitudes to the forestry resource conflict are reflected in their attitudes to climate change. This is evident in the membership of polarized discourse coalitions, persistent storylines, and the values underlying these. Beck and Giddens' linking of the discourses of tradition and nature is borne out by the empirical data in the Hobart Values Survey. Discourses embracing nature untouched by humanity, or the authority of traditional social order, on the point of their collective disappearance, are for these writers a nostalgic defence of what once gave our lives boundaries, and had greater power and authority than individual human agency. In trying to defend either nature-as-wilderness, or the god-given or 'natural' authority of humans over nature, both discourse coalitions attempt to protect a particular (and likely a passing) way of life (Giddens, 1994).

3.3 Emerging from ruts

Forestry is a significant part of the society, culture and economy of Tasmania. Forests cover over 50% of the state (Forest Practices Authority (FPA), 2012). Tasmania has 0.9% of Australia's land (Geoscience Australia, 2016) and 2.1% of its population (Australian Bureau of Statistics (ABS), 2016), but during the period 2001-2014, on average it produced 22% of Australia's wood production each year (Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES), 2015). Forestry has also been a major source of political controversy in the state. From the late 1980s onward a range of government-led processes sought some settlement of the issue (Ajani, 2007). These were typically bureaucratic and technocratic, the most notable being the Regional Forest Agreement (RFA) process of the late 1990s. The RFA attempted to resolve the conflict by using a scientific process to determine what areas of forest should be reserved and what areas could be logged. However, from a risk society perspective, in an environment where there were multiple opposing claims to knowledge and legitimacy, the authority of science and government no longer held. As a result the RFA failed to resolve the conflict (Kirkpatrick, 1998; Lane, 1999). It was in this context that the forest negotiations were conducted between 2010 and 2012. These negotiations are considered to have had some success in dealing with long intractable problems between long term adversaries (Schirmer et al., 2016). Critically, they managed, for a time, to disrupt polarized discourses. In the following sections, we look at what lessons might be drawn from this experience.

3.3.1 Enabling conditions

We identify two sets of conditions that contributed to the emergence of the forest negotiations. The first were processes that contributed to alternative storylines and new styles of sub-political risk negotiation. In the past, Australian ENGO strategies primarily involved attempting to influence government as the arbitrating authority (Ajani, 2007; Davis, 1985) both directly and indirectly through the media (Lester and Hutchins, 2012). In the run-up to the forest negotiations, new approaches were emerging. In 2009, Our Common Ground, an informal coalition of mainly environmental interests, sought to promote a collegial way forward (Jim Adams, Afternoon Session 15 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 27). Our Common Ground promoted a new storyline which focused on the cost of the conflict to all parties including the public, and a need for new politics and consensual approaches, arguing that "[f]or years, Tasmanians have been forced into old fights as if the world wasn't changing around us" (Tierney, 2010). Our

Common Ground acted through 'embedded environmentalism' (Dolsak and Prakash, 2016) laying out solutions to the conflict that specifically addressed the demands of both conservationists and timber industry supporters. This was achieved through storylines demanding both better forest protection, and ways to address employment and economic issues, primarily by advocating a plantation-based timber industry. Our Common Ground also appealed more broadly to the Tasmanian community by speaking of the possibility of 'peace' for the whole Tasmanian community as a viable alternative to the conflict.

Concurrently, the Australian branch of the Forest Stewardship Council (FSC)[5] had been becoming increasingly important in Australian forestry. Under pressure from public opinion, Japanese companies – the largest customers for natural forest woodchips – began to demand FSC certification in order to assure social and environmental sustainability (Beresford, 2015: 242). While FSC did not play a direct role in the negotiations, it was catalytic in forming social relationships between key players from the polarized discourse coalitions, who might otherwise have only interacted adversarially. Leaders from both sides had been working together through FSC Australia prior to the forest negotiations and thus had experience of a model of non-governmental deliberative governance over forest management (Jim Adams, Sean Cadman and Natalie Reynolds, 5 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013). State-run forestry operations in Tasmania did not have this certification, but an agreement with ENGOs was likely to improve their chances (Bob Annells in Morning Session 12 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013).

The second group of conditions contributing to the emergence of the forest negotiations changed the operating conditions and power relationships within the conflict. These were: changed market conditions for the timber industry (Schirmer et al., 2011); and changes in the political environment with the formation of novel Labor/Greens coalitions (Lester and Hutchins, 2012) at both state and federal level. From around 2008 a number of timber market

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[5] The FSC is an international non-government forestry certification body. Its governance structure ensures equal input from three 'chambers' – environmental, social and economic. This was designed to prevent any one sector from becoming dominant and in doing so forces all three sectors to work consensually (Cadman, 2009).

changes confronted forestry in Tasmania. The global financial crisis had a large impact on global wood markets (Beresford, 2015). Tasmania's timber industry, particularly its largest private forestry company, Gunns Limited, started to struggle to find markets for its wood. Several industry representatives referred to a 'perfect storm' in industry conditions in the hearings (e.g. Bob Annells, Afternoon Session 17 Jan 2013, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 31). In this environment, ENGOs were increasingly successful in turning international customers away from Tasmanian wood. In 2010 Gunns made a decision to exit the natural forest sector, its CEO proclaiming the environment movement had 'won' (Beresford, 2015).

In addition to these changes in markets there were changes in government. A Tasmanian state government election in 2010 resulted in a new ruling coalition between the Greens and the Labor party.[6] Labor had been a traditional supporter of the timber industry, while the Greens were strong advocates of changing forestry practices, and in many forests, ceasing production altogether. In September 2010, an Australian federal Labor Government was elected that also required support from the federal Greens party to pass legislation. At both levels of government this was a rather uncommon alliance in governing coalitions, between a pro-industry workers' party and a pro-conservation party. This set the scene for government to take a more consultative role – because to try to adjudicate on this matter would have exposed both Labor/Greens coalitions on one of their most awkward policy differences. Indeed, the need to avoid the traditional adjudication role of government might also explain why both governments clearly stated that they would only accept an agreed position as policy if agreement was reached by the parties to the negotiation – otherwise the government was not seeking to change the *status quo*.

3.3.2 The forest negotiations' impact on polarized risk conflict

In the storylines of the conflict, analogies of war had been commonplace. Market campaigns by ENGOs were described as 'weapons' (Richard Colbeck, Afternoon Session 13 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 10), and

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[6] Also of significance was the potential role of Our Common Ground in supporting the Greens' vote and influencing the state election outcome of 2010 (Douglas, 2010) while at the same time communicating broadly the possibility of a negotiated peace.

environmentalists as 'extremists' (Jim Wilkinson, Morning Session 12 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 12). Both resource development and conservation discourse coalitions agreed on the need to bring about 'peace', and end "the crippling impact that this conflict has had more broadly on Tasmania" (Philip Pullinger, 8 April, in Legislative Council Committee on Government Administration 'A', 2011: 29). Advocating enabling legislation to the Tasmanian Parliament's upper house, Forest Industries Association CEO Terry Edwards said of its possible failure, "the outcome of that scenario would be ... [a return] to that war footing where we are at each other's throats, no longer talking to each other and throwing punches or grenades across the barricades" (Afternoon Session 15 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 41). Bob Annells, the chair of Tasmania's state-owned forest management company, concluded "while the TFA itself is not perfect, it does represent a consensus between two deeply divided parties. As such, it is in its own way a breakthrough and should allow Tasmania [to] move on at last from what many call the forest wars" (Afternoon Session 16 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 31).

Significantly, the storyline of the cost of conflict, and hence, need for peace, did not necessarily disrupt the ruts or the identities that went with them. Storylines can function as 'identity markers' for social groups, and often contain implicit recognition of a shared 'other' (Nelson and Kinder, 1996). Despite efforts to frame the forest negotiations as involving a shared range of interests, even at the end of the process participants still referred to 'our side'.[7] The initial discourse coalitions remained in place even when those who had been party to the negotiations had to confront a new collective 'other' in the form of a hostile Legislative Council, who threatened not to pass enabling legislation for the agreement.[8] Agreeing to negotiate was, for some, a threat to long-held identities. As Australian Conservation Foundation CEO Don Henry put it, "We have all had parts of our constituencies that are

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[7] See for example Jane Calvert (Morning Session 16 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 51), refer to 'our side', the pro-forestry discourse coalition, in the negotiations.

[8] The Legislative Council is the Upper House of the Tasmanian Parliament, with a constitutional responsibility for legislative review.

very uncomfortable from shifting from business as usual" (Morning Session 12 Jan, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 9). This shows that the negotiations did not dissolve the ruts of polarized discourse coalitions, but nevertheless succeeded in creating storylines that, at least for a time, bridged the divide.

These new storylines also helped coalitions to side-step processes reliant on traditional authority, and shift to a sub-political space outside the dominant engagement practices of government or scientific technocracy. It was now considered that long-sought certainty in the operating environment was best delivered through risk negotiation (Evan Rolley, Afternoon Session 28 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013) and that even if the agreed outcome was not optimal from a scientific perspective, the certainty of any agreed position was better for employment prospects than endless negotiation (Jacki Schirmer, 6 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013). While scientists were involved where the absence of "scientific data had been identified as a key block to progressing negotiations" (Schirmer et al., 2016), scientific input was subservient to the process of reflexive negotiation of risk. This differed from the process of the RFA, which claimed science as the basis of decisions (Lacey et al., 2016). Possibly as a result, some of the strongest critics of the forest negotiations were those whose traditional roles within these power structures were usurped. "In ecological terms," the negotiated outcomes would make Tasmania "the unwitting victim of an unprincipled victory of prejudice, dogmatism, opportunism and naivety over science," submitted a forest ecologist to the Legislative Council hearing (Grove, 2012). Professional foresters lamented their exclusion from the forest negotiations (see Afternoon Session 24 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 32-60), and politicians expressed concern about the undemocratic nature of the process (Tony Mulder, Afternoon Session 24 Feb, in Select Committee on the Tasmanian Forests Agreement Bill 2012, 2013: 38).

Ultimately, The Tasmanian Forests Agreement was signed in 2012 (Australian Conservation Foundation (ACF) et al., 2012) with state and federal governments acting to deliver key aspects of the agreement over the subsequent year. These included (primarily) federal government funding of over AUD $200 million. This included business compensation for reducing the annual wood production from public natural forests by nearly two thirds, and support to the transition of the industry to plantation based production. In addition, an area of around 500,000 ha of public production natural forest was shifted out of wood production, and is progressively being made into formal conservation reserves, including 123,000 ha

added to the Tasmanian Wilderness World Heritage Area in 2013. It is indicative of the resilience of the agreement that these outcomes have largely survived changes of government at federal and state level. Centre-right pro-resource development governments elected in 2013 (Australia) and 2014 (Tasmania) actively campaigned to undo the implementation of the agreement (Warman, 2014b). However, despite a short-lived, and ultimately failed attempt to undo parts of the agreement's new World Heritage Area extensions (Fairman and Keenan, 2014), both of these governments now accept this outcome. In addition, despite the state government rewriting forestry legislation, the revised legislation continued major changes, including the reduced annual wood production quota and ongoing exclusion of logging from the proposed reserve areas (for at least six years). The groundwork of resolving underlying values conflicts and dysfunctional relationships laid during the forest negotiations may have contributed to the robustness of the agreement. It is also possible that the longevity of these outcomes is at least in part due to the structural changes to markets (Warman, 2014a) that helped catalyse the forest negotiations.

4. Insights for environmental risk conflicts

In this article, we have provided a novel conceptualisation of the formation and perpetuation of 'ruts' in environmental risk conflicts, in which similar patterns of storylines and discourse coalitions re-occur in consecutive conflicts. We have shown that the ruts of the forestry debate continue to be seen in Tasmanians' responses to climate change, despite the differences between these issues. We have examined a moment in time when players in this conflict managed to craft new shared storylines that allowed progress, for a while at least, in disrupting the ruts in order to conduct a successful process of negotiation. This case both informs the discourse around environmental polarization, and provides insights that are more broadly applicable. In the following, we discuss three key insights, and suggest how they might be applied to polarization about climate change and other environmental risk conflicts:

- The sub-political negotiating space might be better suited to disrupting polarization than traditional democratic authorities.
- Effective risk negotiation between polarized discourse coalitions requires a mutual understanding of the socially-constructed nature of risk definition, and recognition that there is no one 'rational' or 'objective' way of defining the risk.
- Disruptive 'bumps' in the political or economic environment can provide opportunities for novel discourse coalitions and storylines to take hold.

The first insight comes from recognition that in reflexive modernity, traditional authorities no longer have the power to arbitrate social change. This idea is supported in the failure of the RFA to end Tasmania's forestry conflict, and the persistence of polarizing storylines evident in the survey and interviews. In this Tasmanian case it is apparent that traditional top-down approaches were not able to disrupt polarized discourses. The kind of sub-political negotiation generated by the forest negotiations is consistent with Jasanoff's (2003: 398) call for integration of the sub-political and democratic, "so as to achieve a humane and reasoned balance between power and knowledge, between deliberation and analysis." Healy (1999) describes a model for 'post-normal' politics in which the role of elected government is to facilitate further democratized processes of sub-political decision-making, and Stevenson and Dryzek (2012) argue for a democratic practice that aspires to "inclusive, competent and dispersed reflexive capacity." However, it is not always in the interests of political parties to disrupt polarization or to interrupt ruts. Thus, initiation of sub-political negotiation may need to come from outside of institutions of traditional authority. This means there will also be a need for negotiation between government and sub-political players, especially when government action is required to make necessary change. In the forest negotiations, the sub-political was supported by the Labor/Greens state government, who had clear political motives to do so, as noted above, but was rejected by the new centre-right Liberal government in an effort to regain traditional democratic authority and electoral advantage.

The case of the Tasmanian forest negotiations shows how novel discourse coalitions have the potential to begin transformative sub-political negotiations, outside the traditional hierarchies of politics and science. In the context of climate change, our analysis suggests that there is potential for effective negotiation on climate change at the sub-political level. One example of existing sub-political negotiation is between ENGOs and banks who fund fossil-fuel developments, such as the North Dakota pipeline in the US and the Adani Carmichael coal mine in Queensland, Australia. In the former case, the public is being urged to boycott banks who support the project, while in the latter, growing numbers of banks have been persuaded to pull out of funding agreements. There is potential to expand this sort of negotiation into local climate change sub-conflicts – for example around pollution (such as in run-off from intensive farming activities) and deforestation (for example in development of palm oil plantations).

Sub-political approaches also have challenges. There are significant tensions between sub-political negotiation and democratic ideals that are not reconciled at a theoretical level (e.g.

de Vries, 2007; Mouffe, 2002). One of the criticisms of the forest negotiations during this period was that it focused on key combatants but excluded other interests (Kanowski, 2012; Lester and Hutchins, 2012). Groups including private forest owners and traditional political interests criticized the role of non-elected players in the decision-making as undemocratic. While this view does not account for the role of the democratically elected state and federal governments in passing legislation and dispersing funding for the agreement, the longer term challenges of sustaining government support could in part be attributed to ongoing presence of groups who felt excluded. It shows that processes seeking to disrupt polarized discourses will be vulnerable to any disaffected parties who can draw on the power of the established ruts to pull players back to the *status quo*. This highlights the importance of cultivating trust in sub-political processes (Healy, 1999), especially through careful attention to who is represented, how and why.

The second insight from our analysis is that for adversaries to become partners in the negotiation of agreed risk, they must understand that risk definitions are socially constructed. Under reflexive modernization, belonging to specific social groups (such as nationalities, classes or political parties) is not pre-given. When boundaries between social groups are understood to be socially constructed, they become subject to choice and conscious reconstruction. Thus traditional arbiters of conflict can be replaced by "cooperative decision making through ad hoc, sub-political negotiations" (Beck et al., 2003: p.28). This realization entails the mutual understanding of divergent values and their importance to social identities. By building relationships between members of different discourse coalitions and promoting alternative storylines, the initiatives of FSC and Our Common Ground were important facilitators of this possibility in the forest negotiations. This is consistent with Hoffarth and Hodson's (2016: 47) suggestion that efforts to disrupt polarization about climate change be "not ideologically threatening and … [emphasize] intergroup cooperation." Our analysis suggests (in line with the theory of Beck and Giddens) that the conflicting storylines of 'the sanctity of the natural environment' versus 'the sanctity of traditional social order' may be repeated across many environmental risk conflicts. Both of these storylines predicate the existence of a higher power (and higher responsibility). However, reflexive modernization requires taking responsibility for defining the risk ourselves, in the full knowledge that our values are relative. In the forest negotiations, this was demonstrated in a number of ways. Firstly, both discourse coalitions acknowledged the legitimacy of the other's concerns in order to negotiate the development and adoption of a shared storyline of the cost of conflict.

Secondly, there was a pragmatic approach, in which parties agreed to outcomes in spite of unresolved scientific contention. Together with the sub-political focus of the negotiations, this supports our suggestion that the forest negotiations can be seen as an expression of reflexive modernization in practice.

In the context of polarized resource use conflicts (notably climate change), the insight that risk definitions are socially constructed shows that there are significant challenges to the use of purely scientific arguments in order to reconcile polarized discourses. This involves re-envisioning of society's relationship with nature. In reflexive modernization, nature is no longer seen as an unlimited resource external to society. Science, therefore, ceases to be understood as an instrument of social progress that will enable society to demystify, and thus to control nature (Beck et al., 2003), let alone predict the future of the natural/social systems being 'managed' (Beck, 2016). Scientific arguments and facts might be invoked to justify divergent positions on issues such as climate change, forestry, fishing, and mining, but the use of these 'objective' arguments often masks political, social, or ideological motivations (Hulme, 2009). In a reflexive modernity these underlying motivations become unmasked, so that unquantifiable, 'non-rational' human values can become part of the conversation. As O'Lear (2015) notes, while scientific storylines dominate, the multiple ontologies of climate change operating in society are kept hidden from debate, and cannot be reconciled. For climate change, scientific storylines are central to the dominant framing, but when they focus on facts without acknowledging values, they are not open to negotiation – they can only be accepted or doubted. Storylines that focus on the impacts of climate change on issues in society that may have shared values, across resource development and environmental discourse coalitions, are more likely to enable negotiation of risk definition between polarized discourse coalitions. Human health (Myers et al., 2012), dignity (Prins et al., 2010), and security (Trombetta, 2008) are three such issues that offer potential in the climate change discourse.

The forest negotiations case study suggests that shared storylines can in turn be useful for facilitating the development of novel discourse coalitions involving a new mix of players. When dealing with entrenched discourse coalitions, the power of an empathetic move by a previously polarized adversary should not be discounted. Dolšak and Prakash (2016) argue that reaching out to the potential 'losers' in polarized conflicts has the potential to disrupt policy deadlocks in climate change. While it is challenging to sideline adversarial storylines that have become strongly entwined with one's social identity – such as opposition to carbon-intensive development, in the case of climate change – acknowledging the economic and

social losses from climate change mitigation actions could help to open a space for negotiation.

The final insight of this article is to recognize that 'bumps', or stochastic events that disrupt business-as-usual, can be harnessed as transformative moments in the conflict, enabling the disruption of polarized ruts through the formation of new sub-politics. During business-as-usual, the risk to any first mover in trying to open a space for negotiation is that they are likely to be seen as making a move that is in the interest of perpetuating the established storylines of their discourse coalition. Therefore, change requires an action that does not appear to be from within the 'game'. This is why a disruptive 'bump' might be useful allowing alternative storylines and novel coalitions an opportunity to gain traction. Our Common Ground and FSC had their roots in the conservation discourse coalition, and were seen by some in the resource development coalition as a front for ENGOs. Despite this, the disruptive 'bump' of the global financial crisis and Gunns' subsequent collapse made many in the forest industry re-assess their options, opening up an opportunity for the alternative storylines promoted by processes such as FSC and Our Common Ground to be considered. In relation to climate change, market shifts, extreme weather events or political changes could be harnessed as opportunities for transformation. The challenge is to build relationships and prepare alternative storylines in order to be ready to take advantage of the opportunities stochastic events can provide.

From a research and policy perspective, the concept of ruts leads to further questions. In particular, how do organisations outside government, such as unions, business and ENGOs negotiate the options of being 'in' the space of traditional political power structures while maintaining the advantages of being 'out' as they engage in the sub-political? At the same time, creating an environment for sub-political negotiations is a challenge for traditional authorities who must simultaneously cede authority and power while maintaining legitimacy and the expected outcomes of democratic and transparent governance. Finally, the potential for harnessing stochastic events to disrupt polarized ruts warrants considerably more investigation.

It should be noted that while correlations between attitudes to forestry and climate change shown by the Hobart Values Survey, and the shared storylines present in interview data offer insight into the existence of ruts, further research is required. Future research would need to address the temporal dimensions of ruts, and the processes through which they are formed

and perpetuated. This work is likely to require longitudinal study of the discourses of environmental conflicts linked together by ruts.

5. Conclusion

In Tasmania, the development of polarized storylines and discourse coalitions around environmental risk conflicts has created conditions that affect the formation of subsequent conflicts. In other words, environmental risk conflicts have carved 'ruts' that persist long after the resolution or relevance of the formative dispute. Our conceptualization of 'ruts' is of a set of polarizing social constructs that has its own momentum – comprising of storylines that appeal to certain values and definitions of the environment, and are tied to the social identities of certain groups of people. The survey results and case study in this Tasmanian example show how these are perpetuated through longstanding discourse coalitions. Polarization between those whose predominant concern is maintaining social order and traditional authority, versus those who prioritize the intrinsic value of nature over its use as an economic resource, is repeated in environmental risk conflicts across the globe. The Tasmanian example shows that in the case of forestry, new coalitions of players from outside traditional systems of authority succeeded in shifting the discourse out of the ruts of polarization, at least for a time, where science and government had failed. This suggests that the sub-political negotiation of new storylines is useful in disrupting polarized discourse coalitions. The greatest opportunities for negotiation may be catalysed by disruptive 'bumps'. The challenge for players in polarized discourses is to be prepared to acknowledge the legitimacy of divergent values, and to seek framings that sidestep, rather than confront strongly held conflicting values. We do not suggest that this should be an attempt to move to a post-polarized or rut-free deliberative democracy, but a pragmatic response to the 'ineradicable character' of power and antagonism (Mouffe, 1999) as expressed in the development of the ruts.

6. Supplementary materials

The survey sample was a non-probability sample of 522 adults in the Greater Hobart region. The majority of participants volunteered to complete a web-based survey, which was advertised in local print and radio media, through third party organisations such as Rotary clubs, and through Facebook and Twitter. Fifty participants were drawn from community centres, Retired Services League (RSL) clubs and local markets, where paper and face-to-face surveys were carried out. These sampling methods were designed to ensure that the sample was as diverse as possible. In order to reduce sampling biases such as over or under-representation of particular social groups, rim weighting was performed in SPSS (Peck 2011), as recommended by Hahs-Vaughn (2005), to adjust the sample to conform to Greater Hobart population demographics of gender, age and education as found in the Australian Bureau of Statistics 2011 Census.

Survey questions used in this study include questions on age, gender, and level of education; concern about climate change; and human values as measured by the Schwartz Portrait Values (PVQ) instrument (Schwartz 2013). A copy of the survey questions can be found in section Appendix I.

6.2 Statistical methods

Statistical analysis is based on a comparison of two hierarchical binary regression models. The first compares the likelihood of being pro-forestry (people who answered that forestry was one of Tasmania's four most important industries) or anti-forestry (those who answered that it was Tasmania's least important industry). The second compares the likelihood of having high levels of concern about climate change (people who are 'very concerned' or 'extremely concerned', n=272), with being unconcerned about climate change ('not concerned at all' or 'not particularly concerned', n=47). As this analysis investigates polarized attitudes, people who had moderate levels of concern about climate change (n=175) were excluded from the analysis.

Demographic variables were included as controls in each model as a first block. Using separate blocks of variables allowed us to investigate the independent effect of each block of variables, while retaining the interaction effects of all variables in the final model. Schwartz (2013) suggests that a maximum of eight values variables should be included in a regression analysis, to avoid multicollinearity. Our choice of values variables was based on theoretical considerations, and on previous investigations of the data on climate change concern (see

Chapter Five). From these investigations, we hypothesized that universalism (care for nature) and security (social order) would affect belonging to the polarized groups. Therefore these values are included as a second block. The third block, based on theoretical considerations, includes three more composite values variables from different dimensions of the values spectrum: power, tradition and self-direction. To counteract the problem of multiple comparisons, we used a Bonferroni adjusted p value of 0.01.

Model 1: Pro-forestry cf. anti-forestry

Predictor variables	Co-efficient	S.E.	Wald	df	Sig.	Odds ratio	95% C.I.for odds ratio	
							Lower	Upper
Gender (male [1] cf. female [0])	.660	.422	2.444	1	.118	1.935	.846	4.426
Age (cf. 18-29 [0]):			1.308	3	.727			
30-49	.485	.670	.524	1	.469	1.624	.437	6.031
50-64	.002	.647	.000	1	.998	1.002	.282	3.564
65+	.368	.539	.467	1	.495	1.445	.502	4.160
Education (cf. university [0]):			.899	2	.638			
School leaver	.231	.806	.082	1	.774	1.260	.260	6.113
TAFE/ vocational training	.560	.818	.468	1	.494	1.750	.352	8.697
Universalism (care for nature)	-.845	.188	20.23	1	.000	.429	.297	.621
Security (social order)	.573	.213	7.252	1	.007	1.774	1.169	2.692
Self-direction	.168	.206	.665	1	.415	1.183	.790	1.769
Power	.242	.285	.717	1	.397	1.273	.728	2.227
Tradition	-.049	.178	.074	1	.785	.953	.671	1.351
Constant	-.711	.907	.614	1	.433	.491		
Model fit Nagelkerke R^2 Percentage correctly classified	$\chi 2$ (8, n=197)=69.95** 0.37 76.0							

Model 2: Unconcern about climate change cf. high concern about climate change

Predictor variables	Co-efficient	S.E.	Wald	df	Sig.	Odds ratio	95% C.I.for Odds ratio	
							Lower	Upper
Gender (male [1] cf. female [0])	-.698	.596	1.370	1	.242	.498	.155	1.601
Age (cf. 18-29):			8.880	3	.031			
30-49	.529	1.062	.248	1	.618	1.697	.212	13.611
50-64	1.754	1.009	3.019	1	.082	5.777	.799	41.772
65+	-.695	.933	.555	1	.456	.499	.080	3.106
Education (cf. university):			6.260	2	.044			
School leaver	1.678	1.219	1.896	1	.169	5.356	.491	58.382
TAFE/ vocational training	-.141	1.187	.014	1	.905	.868	.085	8.898
Universalism (care for nature)	-2.652	.449	34.887	1	.000	.071	.029	.170
Security (social order)	1.432	.405	12.520	1	.000	4.188	1.894	9.260
Self-direction	2.316	.516	20.124	1	.000	10.131	3.684	27.862
Power	.881	.444	3.937	1	.047	2.412	1.011	5.756
Tradition	1.055	.375	7.918	1	.005	2.872	1.377	5.990
Constant	-1.596	1.462	1.192	1	.275	.203		
Model fit Nagelkerke R^2 Percentage correctly classified	χ2 (8, n=357)=153.42** 0.70 92.6							

6.3 Results

Binary logistic regression models showing the variables that predict likelihood of belonging to polarized groups. The null hypothesis is that there is no difference between the groups. Model 1 compares the *pro-forestry group* (coded 1) with the *anti-forestry group* (coded 0). Model 2 compares the *unconcerned* (coded 1) and *high climate change concern* (coded 0) groups.

The model comparing pro- and anti- forestry groups accounted for approximately 37 per cent of the variance, and correctly classified 76 per cent of observations. The model comparing high concern with unconcern about climate change accounted for 70 per cent of the variance, and correctly classified 92 per cent of observations. In both models, Block 1 showed no significant effect of the demographic variables of gender, age and education. In the model comparing forestry groups, demographic variables were estimated (Nagelkirke R2) to account for approximately 3% of the variance, and in the model comparing climate change groups, for

approximately 5% of the variance. In the final models, demographic variables remained non-significant.

In both models, Universalism (care for nature) was highly significant. People who prioritize care for nature are 2.3 times (1/0.429) as likely to belong to the anti-forestry group, and 14 times (1/0.071) as likely to be concerned about climate change. Conversely, people who prioritize national security and social order are 1.7 times as likely to be pro-forestry and 4 times as likely to be unconcerned about climate change. Prioritizing self-direction is associated with a tenfold higher likelihood of being unconcerned about climate change, and prioritizing tradition increases likelihood of being unconcerned by 2.9 times.

Appendix II | Hobart Values Survey

This appendix contains:

1. The Hobart Values Survey questionnaire (paper version), including information sheet and consent form.
2. Preliminary results (unweighted percentages) of the Hobart Values Survey, for participants and interested others, published on the hobartvalues.com website in 2015.
3. Statistical tables for analyses discussed in Chapter Ten but not previously included in the thesis.

Hobart Values Survey

Invitation to Participate in the Hobart Values Survey

I am Chloe Lucas, a PhD student researcher at the University of Tasmania (UTAS).

I invite you to participate in The Hobart Values Survey. This questionnaire is open to anyone over 18, living in the Greater Hobart Area. The survey will take about 15 minutes to complete.

What is the purpose of the survey? To investigate how you feel your concerns, values and priorities are represented in public decision-making and debate.

What are the benefits of completing the survey? If you complete the survey you can enter a prize draw to win a $100 Cinema voucher. Survey results will inform research and policy.

Are there any possible risks from participating in the survey? We do not foresee any risks, but please let us know if you have any concerns.

What if I change my mind during or after the survey? Your involvement is voluntary. Once you have indicated your consent and returned the survey, it will not be possible to withdraw any information you have provided.

Will I be identified in the study? No. All your information will be treated confidentially and you will be anonymous in any reporting of the survey. You can choose to provide your contact details if you would like information about participating in a future stage of the research.

What will happen to the information when this study is over? The information will be kept in a private and secure place for a minimum of five years.

How will the results of the study be published? The results will be published in peer-reviewed papers, and as a PhD thesis. You will be able to see survey results online at hobartvalues.com later in 2015.

What if I have questions about this study? Feel free to contact me,
Chloe Lucas (chloe.lucas@utas.edu.au, Tel. 0413 768 999) or my supervisors Dr Aidan Davison (aidan.davison@utas.edu.au,Tel.6226 7590) and Dr Peat Leith (peat.leith@utas.edu.au, Tel. 6226 2650).

This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on +61 3 6226 6254 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number H0014743. This information sheet is for you to keep.

Hobart Values Survey

Statement of informed consent

- I agree to take part in the Hobart Values Survey. I understand that my participation is voluntary.
- I have read and understood the survey information.
- I understand the survey involves a questionnaire that will take about 15 minutes.
- I understand that any information I supply will be treated as confidential, used only for the purposes of the research, and securely stored at the University of Tasmania for a minimum of five years from the publication of the study.
- I understand that once I have returned the survey, it will not be possible to remove any information I have provided.
- I understand that I will not be identified in any reporting of the survey results.
- I understand that I can choose to provide contact information if I may wish to take part in a future stage of the study.

I Agree ☐

Hobart Values Survey

Are you male or female? Male ☐ Female ☐

What is your age? 18-29 ☐ 30-49 ☐ 50-64 ☐ 65 or older ☐

What is your postcode? _____

What is your current occupation? _____

What is the highest level of education you have completed?

Did not complete high school ☐ Year 10 ☐ Year 12 ☐ TAFE or vocational qualification ☐

University undergraduate qualification ☐ Postgraduate qualification ☐

Do you have any children? Yes ☐ No ☐

Do you have any grandchildren? Yes ☐ No ☐

Hobart Values Survey

How often do you use each of these media sources to find out about the news?

	1. Never	2. Rarely	3. About once a week	4. Several times a week	5. About once a day	6. Several times a day
ABC or SBS television, radio or websites	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Commercial television (e.g. WIN, Southern Cross)	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Commercial radio (e.g. Heart 107.3, Sea FM, HO FM)	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The Mercury	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The Australian, Daily Telegraph or Herald Sun	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The Age or Sydney Morning Herald	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Other Australian news media (e.g. Australian Financial Review, Crikey, the Guardian, Tasmanian Times)	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
International news media (e.g. New York Times, BBC)	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
News.com.au website	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Social media such as blogs, Facebook or Twitter	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

How certain are you that you can influence decisions that affect you, that are made by people in the following areas:

	1. Cannot do at all	2. Unlikely to be able to do	3. Possibly can do	4. Quite likely to be able to do	5. Fairly certain can do	6. Highly certain can do
Your street	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Your neighbourhood	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Your local council	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Your State government	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Your National government	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Internationally	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

How much do you trust the following institutions to represent your values and concerns?

	1. Distrust	2. Do not trust	3. Trust a little	4. Trust somewhat	5. Trust mostly	6. Trust a lot
Your most used news media source	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Your local government	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The State Parliament	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The Federal Parliament	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

Of these industries, please tick the FOUR you think are the MOST IMPORTANT to Tasmania's future prosperity.

Metals processing	☐	Fisheries and aquaculture	☐
Tourism	☐	Agriculture	☐
Manufacturing	☐	Information and communications technology	☐
Forestry	☐	Education and training	☐
Mining	☐	Financial services	☐

Please CIRCLE the industry above that you think is the LEAST IMPORTANT to Tasmania's future prosperity.

What do you feel are the most important challenges facing people in Hobart?

_____

_____

_____

What do you feel are the most important challenges facing humanity?

_____

_____

_____

Hobart Values Survey

How concerned, if at all, are you about climate change, sometimes referred to as 'global warming'?

Not concerned at all	Not particularly concerned	A little concerned	Somewhat concerned	Very concerned	Extremely concerned
1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

How much do you agree or disagree with the following statements:

	1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
Climate change will mostly affect areas that are far away from here.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
My local area is likely to be affected by climate change.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Climate change will mostly affect developing nations.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Climate change will affect people like me.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Developing new technology will be the most effective way to prevent extreme climate change.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Society will need to change to prevent extreme changes to our climate.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
We should wait for more scientific certainty on climate change before we take action.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

How much do you agree or disagree with the following statements:

	1. Strongly disagree	2. Disagree	3. Somewhat disagree	4. Somewhat agree	5. Agree	6. Strongly agree
The government should discourage people who arrive in boats from seeking asylum in this country.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The government should be generous in judging people's applications for refugee status.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
I feel safe to walk alone in my neighbourhood after dark.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Street crime is a problem in the Hobart area.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Social welfare benefits place too great a strain on the economy.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
The government should increase spending on public education.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
I would prefer to pay more in tax if it meant better public health services.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

Great - you're nearly there! The final two pages of questions help us to understand some of the values that are important to you.

Below are some descriptions of different people. How much like you is the person described in these sentences?

	1. Not like me at all	2. Not like me	3. A little like me	4. Somewhat like me	5. Like me	6. Very much like me
Thinking up new ideas and being creative is important to them. They like to do things in their own original way.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to be wealthy. They want to have a lot of money and expensive things.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They think it is important that every person in the world be treated equally. They want justice for everybody, even for people they don't know.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is very important to them to show their abilities. They want people to admire what they do.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to live in secure surroundings. They avoid anything that might endanger their safety.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They like surprises and are always looking for new things to do. They think it is important to do lots of different things in life.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They believe that people should do what they're told. They think people should follow rules at all times, even when no-one is watching.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to listen to people who are different from them. Even when they disagree, they still want to understand other people.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They think it's important not to ask for more than what you have. They believe that people should be satisfied with what they have.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Having a good time is important to them. They like to "spoil" themselves.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to make their own decisions about what they do. They like to be free to plan and to choose their activities for themselves.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

Below are some descriptions of different people. How much like you is the person described in these sentences?

	1. Not like me at all	2. Not like me	3. A little like me	4. Somewhat like me	5. Like me	6. Very much like me
It's very important to them to help the people around them. They want to care for other people.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Being very successful is important to them. They like to impress other people.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is very important to them that their country should be safe from threats from within and without. They are concerned that social order should be protected.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They look for adventures and like to take risks. They want to have an exciting life.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them always to behave properly. They want to avoid doing anything people would say is wrong.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to be in charge and tell others what to do. They want people to do what they say.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
It is important to them to be loyal to their friends. They want to devote themselves to people close to them.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They strongly believe that people should care for nature. Looking after the environment is important to them.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
Religious belief is important to them. They try hard to do what their religion requires.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐
They seek every chance they can to have fun. It is important to them to do things that give them pleasure.	1. ☐	2. ☐	3. ☐	4. ☐	5. ☐	6. ☐

Hobart Values Survey

Thanks so much for helping us by answering this survey!

If you might be interested in participating in future stages of this research, please leave your preferred contact details below.

First name: _____

Email address: _____

Phone number: _____

Postal address: _____

_____

Don't forget to fill in the small orange slip to enter the draw for a $100 Cinema voucher!

Hobart Values Survey – Results

The Hobart Values Survey was a web and paper questionnaire open to adult residents of the Greater Hobart area in May-June 2015.

How was the survey distributed?

The web questionnaire was distributed via facebook, twitter, email to members of community organisations, and through direct links to the hobartvalues.com website. The paper survey was distributed through community centres, markets and RSL clubs.

Who participated in the survey?

522 people from within the Greater Hobart Area participated in the survey. Because the distribution of the survey was not random, the participants cannot be said to be a statistically representative sample of the Greater Hobart community. However, there were respondents across all age groups and education levels. The following information describes who participated, and how this sample compares with the Greater Hobart population as a whole.

Gender: Respondents were 330 women (63%), and 193 men (37%). In the Greater Hobart population, 51% are female and 49% male.

Age:	18-29	30-49	50-64	65+
Respondents	17%	44%	24%	15%
Population	21%	33%	26%	20%

Education:	School leavers	TAFE/similar	Undergrad	Postgrad
Respondents	16%	17%	32%	35%
Population	50%	27%	16%	7%

Most common occupations were:

Retired 16%

Managerial 11%

Student 9%

Administration 7%

Medical 6%

Teaching 6%

Public servant 5%

Academic 5%

Communication/journalism 4%

Creative arts 4%

Parent/homemaker 3%

IT 3%

Archivist/curator/librarian 3%

Self-employed 3%

Business consultancy 3%

Community services 2%

Technical trades 2%

Unemployed 2%

64% of respondents had children

19% had grandchildren

Media use

The survey asked people how often they used each type of media source to find out about the news. Results show that public broadcasters are the most popular media used to find out about current events. The Mercury is read by most respondents at least once a week. Social media are also a big source of news stories, with over half the sample logging on every day.

- ABC and SBS are the most used news media. 64% of respondents use ABC or SBS television, radio or websites at least once a day.
- 24% use commercial television at least once a day.
- 10% use commercial radio at least once a day.
- 69% read the Mercury once a week or more, with 27% reading it at least once a day.
- 32% read the Sydney morning Herald or the Age once a week or more.
- 30% read the Australian, Daily Telegraph or Herald Sun once a week or more.
- 36% read other Australian news media once a week or more.
- 41% read international news media once a week or more.
- 28% read news.com.au once a week or more.
- 69% use social media once a week or more. 51% used social media every day.

Personal influence on decision-making by others

The survey asked how much respondents feel they can influence decisions that affect them, that are made locally, nationally and globally.

Respondents' perceptions of their personal influence are extremely low: only 34% feel they are likely to be able to influence decisions made within their own street (this is made up of 20% quite likely, 11% fairly certain and 3% highly certain to be able to influence decisions).

Respondents feel that as decision-making forums become more geographically distant, they have even less influence. Only 26% feel likely to be able to influence decisions made within their neighbourhood, 21% at local council level, and 11% at State Government level. At the level of Federal Government this drops to just 2%, and 2% also feel they are likely to be able to influence decisions made at an international level.

Trust and representation

Respondents were asked how much they trusted their most used media source to represent their values and concerns. Most people (77%) have a moderate amount of trust that their most used media source represents their values and concerns. 16% do not trust or actively distrust their most used media source, while 7% trust it a lot.

The survey also asked how much respondents trusted each level of government to represent their values and concerns. Trust in government was low across the board.

21% actively distrust or do not trust their local government to represent their values and concerns, with 40% trusting it a little, 39% trusting it somewhat or mostly, and less than 1% trusting it a lot.

42% actively distrust or do not trust the State Parliament to represent their values and concerns, with 33% trusting it a little, 25% trusting it somewhat or mostly, and 0.4% trusting it a lot.

59% actively distrust or do not trust the Federal Parliament to represent their values and concerns, with 24% trusting it a little, 16% trusting it somewhat or mostly, and 0.4% trusting it a lot.

Industries

The industries seen as most important to Tasmania's future prosperity are Tourism (85% thought this was one of the four most important industries), Agriculture (73%), Education and Training (73%), and Fisheries and Aquaculture (60%).

Asked to nominate the industries least important to Tasmania's future prosperity, 30% nominated Forestry, 22% Financial Services, and 19% Mining.

Climate Change

The level of concern about climate change was extremely high. This may in part be due to the high numbers of female respondents, and to the high level of education in the sample, as past research has shown that these factors positively impact climate change concern.

68% of respondents are very or extremely concerned about climate change.

24% are a little or somewhat concerned.

7% are not particularly concerned or not concerned at all.

86% believe that climate change will affect areas close to Hobart, while 14% feel it will mostly affect areas far away from here.

While 43% feel that climate change will mostly affect developing nations, 57% disagreed.

88% feel that climate change will affect people like them.

70% feel that developing new technology will be the most effective way to prevent extreme climate change.

94% feel that society will need to change to prevent extreme changes to our climate.

Only 10% feel that we should wait for more scientific certainty on climate change before we take action.

Social issues

Respondents were asked a range of questions about social issues, including refugees, crime and safety, welfare, education and public health.

27% feel that the government should discourage people who arrive in boats from seeking asylum in this country. 73% disagree with this statement.

81% feel that the government should be generous in judging people's applications for refugee status.

81% feel safe to walk alone in their neighbourhood after dark. 19% do not.

51% feel that street crime is a problem in the Hobart area.

33% feel that social welfare benefits place too great a strain on the economy. 67% disagree.

94% believe that the government should increase spending on public education.

84% would prefer to pay more tax if it meant better public health services.

Statistical tables

These tables relate to analyses discussed in Chapter Ten but not previously included in the thesis. They are based on weighted data.

1. Percentage support for industries of concerned and unconcerned survey participants.
2. Spearman's rho correlations for values for concerned and unconcerned groups.
3. Descriptive statistics and Mann Whitney U test comparing concerned and unconcerned participants' perceptions of their own influence.

1. Percentage of concerned and unconcerned who answered who rated these industries as being one of the four most important for Tasmania's future prosperity

Industry	Unconcerned (1-3 response) %	Concerned (3-6 response) %
Metals processing	4.3	1.1
Tourism	88.6	94.7
Manufacturing	14.0	10.1
Forestry	40.4	8.8
Mining	21.9	10.8
Fisheries	84.2	64.5
Agriculture	60.5	82.2
IT and Communication	23.7	48.0
Education and Training	57.9	73.0
Finance	5.3	6.6

2. Spearman's rho correlations between centred values scores and concern/unconcern about climate change

Value	Statistic	Unconcerned (1-3 response)	Concerned (3-6 response)
Self-direction (creativity)	Correlation Coefficient	-.497	.042
	Sig. (2-tailed)	.000	.443
	N	105	343
Power (wealth)	Correlation Coefficient	.041	-.148
	Sig. (2-tailed)	.676	.006
	N	105	343
Universalism (equality)	Correlation Coefficient	.119	.280
	Sig. (2-tailed)	.227	.000
	N	105	343
Achievement (success)	Correlation Coefficient	.226	-.297
	Sig. (2-tailed)	.021	.000
	N	105	343
Security (personal safety)	Correlation Coefficient	-.111	.002
	Sig. (2-tailed)	.261	.971
	N	105	343
Stimulation (novelty)	Correlation Coefficient	-.067	.139
	Sig. (2-tailed)	.497	.010
	N	105	343

Conformity (rules)	Correlation Coefficient	-.258	-.145
	Sig. (2-tailed)	.008	.007
	N	105	343
Universalism (understanding difference)	Correlation Coefficient	-.080	.081
	Sig. (2-tailed)	.416	.135
	N	105	343
Tradition (accepting one's lot)	Correlation Coefficient	-.059	.091
	Sig. (2-tailed)	.548	.094
	N	105	343
Hedonism (pleasure)	Correlation Coefficient	.431	-.126
	Sig. (2-tailed)	.000	.019
	N	105	343
Self-direction (freedom)	Correlation Coefficient	-.125	.116
	Sig. (2-tailed)	.203	.031
	N	105	343
Benevolence (care for people)	Correlation Coefficient	.103	.180
	Sig. (2-tailed)	.296	.001
	N	105	343
Achievement (admiration)	Correlation Coefficient	.107	-.152
	Sig. (2-tailed)	.279	.005
	N	105	343
Security (social order)	Correlation Coefficient	.251	-.037
	Sig. (2-tailed)	.010	.492
	N	105	343

Stimulation (risk taking)	Correlation Coefficient	-.042	.059
	Sig. (2-tailed)	.670	.272
	N	105	343
Conformity (norms)	Correlation Coefficient	.166	-.019
	Sig. (2-tailed)	.091	.732
	N	105	343
Power (authority)	Correlation Coefficient	.039	-.251
	Sig. (2-tailed)	.690	.000
	N	105	343
Benevolence (loyalty)	Correlation Coefficient	-.036	.159
	Sig. (2-tailed)	.714	.003
	N	105	343
Universalism (care for nature)	Correlation Coefficient	-.098	.366
	Sig. (2-tailed)	.321	.000
	N	105	343
Tradition (religiosity)	Correlation Coefficient	-.251	-.078
	Sig. (2-tailed)	.010	.150
	N	105	343
Hedonism (spoiling oneself)	Correlation Coefficient	.119	-.012
	Sig. (2-tailed)	.226	.820
	N	105	343

3. Descriptive statistics and Mann Whitney U test comparing concerned and unconcerned participants' perceptions of their own influence.

Differences in responses to the question: How certain are you that you can influence decisions that affect you, that are made by people in the following areas?

Climate change concern		Your street	Your neighbourhood	Your local council	Your state government	Your national government
1-3 response (unconcerned)	Median	3.0	3.0	2.9	2.0	2.0
	Mean	2.9	2.7	2.5	2.2	1.8
	N	114	114	114	114	114
3-6 response (concerned)	Median	3.0	3.0	3.0	2.0	2.0
	Mean	3.1	3.0	2.8	2.4	2.2
	N	377	377	377	377	377
Total	Median	3.0	3.0	3.0	2.0	2.0
	Mean	3.1	2.9	2.7	2.3	2.0
	N	491	491	491	491	491

	Your street	Your neighbourhood	Your local council	Your state government	Your national government
Mann-Whitney U	16650.5	14959.5	15001.0	17503.0	16541.5
Z	-2.346	-3.902	-3.811	-1.625	-2.462
Sig. (2-tailed)	.019	.000	.000	.104	.014

p <.05

Appendix III | Interview information and consent

This appendix contains:

Initial interview information sheet (given to participants in interview 1).

Initial consent form (given to participants in interview 1).

Updated interview information sheet (given to participants in interview 6, once the full details of the project had been discussed).

Updated consent form (given to participants in interview 6, once the full details of the project had been discussed).

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Information sheet for Participants

Society and Controversy: How do we form and communicate our views on important issues?

Dear Jessica

I am Chloe, a student researcher at the University of Tasmania (UTAS). I would like to invite you to participate in a social research project I am carrying out in partial fulfillment of my PhD.

About me: Chloe Lucas
I am originally from London, England. I have lived in Australia for 15 years, 8 of those in Hobart. I have worked in television documentaries and science communication, and now I am a part-time PhD student at the School of Land and Food at UTAS. I have two young children, and live in South Hobart.

My supervisors: This research project is supervised by Dr Aidan Davison, who is a Senior Lecturer in Geography and Spatial Science, and Dr Peat Leith, who is Convener of the Science for Society & Policy Program, both at the School of Land and Food, UTAS.

What is the purpose of this study?

This study will contribute to improving the quality of public communication and debate. To do this, I am finding out more about how people form their views on issues that are considered important, topical or contentious. I am looking at how people make sense of different types of communication from scientists, the media, their social network, and other sources. I am also interested in how personal values and lifestyles inform our views.

Why have I been invited to participate?

Earlier this year you completed a questionnaire that was used in the initial stage of this study. In that questionnaire you said that you might be interested in participating in a further stage of this research.

Your involvement in this study is entirely voluntary, and there will be no consequences to you if you decide not to participate, or if you withdraw from the study at any time.

What will I be asked to do?

If you would like to be involved, we will agree to meet for 30 minutes each fortnight, for a total of up to 8 meetings. You can decide where you would like to meet – a quiet café would be an appropriate place. We can agree a time to suit us both, and this can be flexible over the weeks. During these meetings I will buy you a coffee or similar refreshment, and I will ask you questions about your life, your values, concerns and opinions. These interviews will be audio-recorded. In the final meeting I will also buy you lunch, to thank you for your help and participation in my project.

What kind of questions will I be asked?
During the interviews, I will ask you questions about your life, and your concerns and opinions. Some of the questions might include 'What are the things in your life that you value most?' or 'Do you feel that you can affect what happens in your neighbourhood?' I will also ask your opinions and feelings about some controversial issues in the news. There are no right or wrong answers to these questions, but your answers will help me to build a picture of how we communicate within and between our social groups.

What will happen to the information I give?
During the interviews, you may choose not to to answer any questions that might make you feel uncomfortable. After the interview process, you will have the option to review transcripts of our interviews for accuracy. You have the right to remove any or all of your responses from the transcripts.

I will not make public your name or identity. All of the answers you give will be anonymous. If I use a quote you have given me in a research publication, it will be under a pseudonym (a made-up name).

Are there any possible benefits from participation in this study?

Did I mention the coffee? Well, as well as 8 free coffees and 1 free lunch, you may find you enjoy the experience. Many participants in social research appreciate the chance to reflect on their own lives in the company of a friendly, non-judgmental researcher. By participating, you will also be helping the wider community by enabling the researcher to use your experience to develop improved models of communication.

Are there any possible risks from participation in this study?

There is a chance you may feel uncomfortable or upset if the interview leads you to recall distressing experiences. You are free to choose not to answer any question that you are uncomfortable with, and you can stop the interview at any time without needing to give a reason.

If you do become distressed as a result of participation, you may wish to access counseling services such as Lifeline on 13 11 44 www.lifeline.org.au or Beyond Blue on 1300 22 4636 www.beyondblue.org.au

What if I change my mind during or after the study?

You are free to withdraw at any time during the study, and can do so without providing an explanation. You can withdraw any or all of the information you have provided up until the time you have either:

- Checked and approved transcripts of the interviews; or
- Decided to approve the use of the information you gave without checking transcripts.
- If you have not responded one month after recieving the interview transcripts, I will understand this as confirmation that you have decided not to withdraw any of your information from the study.

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What will happen to the information when this study is over?

The information from these interviews will be kept in a private and secure place and will be treated confidentially. Your name and identity will not be attached to it. We will keep the audio-recordings and transcripts from interviews for five years. With your permission, it will then be archived. Alternatively, you can choose for the information to be destroyed after five years.

How will the results of the study be published?

The results of this study will be published in a series of academic papers in peer-reviewed journals, and as a PhD thesis. You will not be identifiable in the publication of the results. I will send you a short summary of the outcomes of the study once it is complete, in 2017.

What if I have questions about this study?

Feel free to ask any questions.

Chloe Lucas
Email chloe.lucas@utas.edu.au
Tel. 04

Aidan Davison
Email aidan.davison@utas.edu.au
Tel. 03 6226 7590

This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on +61 3 6226 6254 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number H0014743.

This information sheet is for you to keep. You can consent to being involved in this project by signing a written consent form that I will bring to our first meeting.

Many thanks for your time and assistance in this project.

Chloe Lucas

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University of Tasmania

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Statement of Informed Consent

Society and Controversy: How do we form and communicate our views on important issues?

1. I agree to take part in the research study named above.

2. I have read and understood the Information Sheet for this study.

3. The nature and possible effects of the study have been explained to me.

4. I understand that the study involves a series of conversational interviews. Interviews will be audio-recorded, and I will be given the option to review transcripts.

5. I understand that participation involves the risk that I may feel uncomfortable or upset if the interview leads me to recall distressing experiences. I understand that I am free to choose not to answer any question that I am uncomfortable with, and that I can stop the interview at any time without needing to give a reason.

6. I understand that all research data will be securely stored at the University of Tasmania for a minimum of five years from the publication of the study results, and will then be destroyed unless I give permission for my data to be stored in an archive.

7. I agree to have my study data archived.

☐ Yes ☐ No

8. Any questions that I have asked have been answered to my satisfaction.

9. I understand that the researchers will maintain confidentiality and that any information I supply to the researchers will be used only for the purposes of the research.

10. I understand that the results of the study will be published so that I cannot be identified as a participant.

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11. I understand that my participation is voluntary and that I may withdraw at any time without any effect.

12. If I so wish, I may request that any data I have supplied be withdrawn from the research until:

- I have checked and returned authorised transcripts; or
- I have authorised use of my responses and declined to check transcripts. I understand that if I have not returned transcripts to the researcher one month after receiving them, it will be understood that I have chosen not to withdraw any of my responses.

Participant's name:

_____

Participant's signature:

_____

Date: _____

Statement by Investigator

I have explained the project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

Investigator's name:

_____

Investigator's signature:

_____

Date: _____

School of Land and Food
University of Tasmania

01 February 2016

Exploring the interaction of personal values and social understandings of climate change

About this research project

This project examines how peoples' values, practices, and social networks interact to inform their beliefs and feelings about climate change. It looks at climate change communication in the context of people's lives and opinions about other issues. It also explores ways to engage with people in a deeper conversation about climate change and other social issues, through dialogue, reflection and trust.

In what way is this different to what I initially agreed to?

At the start of this study I explained that this research was about how people form and communicate views on controversial issues, and how personal values and lifestyles inform our views on issues involving scientific expertise. I did not explain my case study focus on climate change communication until late in the interview process.

Why was this not made clear at the start of the study?

I wanted to be able to get to know you better before I introduced the issue of climate change, and to enable us to have a more in-depth and reflective discussion about what is important to you, and how you understand climate change in relation to other concerns, interests and priorities in your life and in the world.

What happens now?

As you have been throughout the interview process, you are free to withdraw any or all of your information from the study should you wish to do so. You may also choose to review transcripts of your interviews, from which you can cross out any information that you wish to withdraw from the study. I will not use any identifying information in any published work from this study.

What will happen to the information when this study is over?

The information from your interviews will be kept in a private and secure place and will be treated confidentially. Your name and identity will not be attached to it. We will keep the audio-recordings and transcripts from interviews for a minimum of five years.

How will the results of the study be published?

The results of this study will be published in a series of academic papers in peer-reviewed journals, and as a PhD thesis. You will not be identifiable in the publication of the results. I will send you a short summary of the outcomes of the study once it is complete, in 2017.

What if I have questions about this study?

Feel free to ask any questions.

Chloe Lucas	Aidan Davison
chloe.lucas@utas.edu.au	aidan.davison@utas.edu.au
Tel. 03 6226 2205	Tel. 03 6226 7590

This study has been approved by the Tasmanian Social Sciences Human Research Ethics Committee. If you have concerns or complaints about the conduct of this study, please contact the Executive Officer of the HREC (Tasmania) Network on +61 3 6226 6254 or email human.ethics@utas.edu.au. The Executive Officer is the person nominated to receive complaints from research participants. Please quote ethics reference number [H0014743].

This information sheet is for you to keep. You can consent to remaining involved in this project by signing the written consent form attached.

I greatly appreciate the significant amount of time you have given me, and your very valuable help with this project.

Chloe Lucas

School of Land and Food
University of Tasmania

UNIVERSITY of TASMANIA

Exploring the interaction of personal values and social understandings of climate change

Statement of Informed Consent

1. I agree to take part in the research study named above.
2. I have read and understood the end-of-study information sheet, and understand the difference between the focus of the study I initially consented to, and the focus of the study I am now consenting to.
3. Any questions that I have asked have been answered to my satisfaction.
4. I understand that all research data will be securely stored at the University of Tasmania for a minimum of five years from the publication of the study results, and will then be destroyed unless I give permission for my data to be stored in an archive.

   I agree to have my study data archived.

   Yes ☐ No ☐
5. I understand that the researchers will maintain confidentiality and that any information I supply to the researchers will be used only for the purposes of the research.
6. I understand that the results of the study will be published so that I cannot be identified as a participant.
7. If I so wish, I may request that any information I have supplied be withdrawn from the research until
   - I have checked, authorised and returned transcripts; OR
   - I have signed this form and declined to check transcripts.

☐ I wish to review transcripts of my interviews, and undertake to return them to the researcher within one month of receiving them.

I agree that if I have not returned transcripts to the researcher one month after receiving them, it will be understood that I authorise use of my responses in the study.

OR

☐ I do not wish to review transcripts of my interviews.

Participant's name: _____

Participant's signature: _____

Date: _____

Statement by Investigator

☐ I have explained the project and the implications of participation in it to this volunteer and I believe that the consent is informed and that he/she understands the implications of participation.

Investigator's name: _____

Investigator's signature: _____

Date: _____